


FORM 1 GENERAL		U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION Consolidated Permits Program <i>(Read the "General Instructions" before starting.)</i>	I. EPA I.D. NUMBER <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">S</td> <td style="width:15%;"></td> <td style="width:5%;">TIA</td> <td style="width:5%;">C</td> </tr> <tr> <td>F</td> <td></td> <td></td> <td>D</td> </tr> <tr> <td>1</td> <td>2</td> <td>13</td> <td>14</td> </tr> </table>	S		TIA	C	F			D	1	2	13	14																																										
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GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.																																																									
II. POLLUTANT CHARACTERISTICS																																																									
INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms .																																																									
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VII. SIC CODES (4-digit, in order of priority)

VIII. OPERATOR INFORMATION

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other," specify.)					
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E. STREET OR P.O. BOX

X. EXISTING ENVIRONMENTAL PERMITS

15	16	17
XI. MAP		

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)	
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POTW TREATING DOMESTIC AND INDUSTRIAL WASTEWATER FOR SPRINGFIELD AND OUTLYING AREAS.

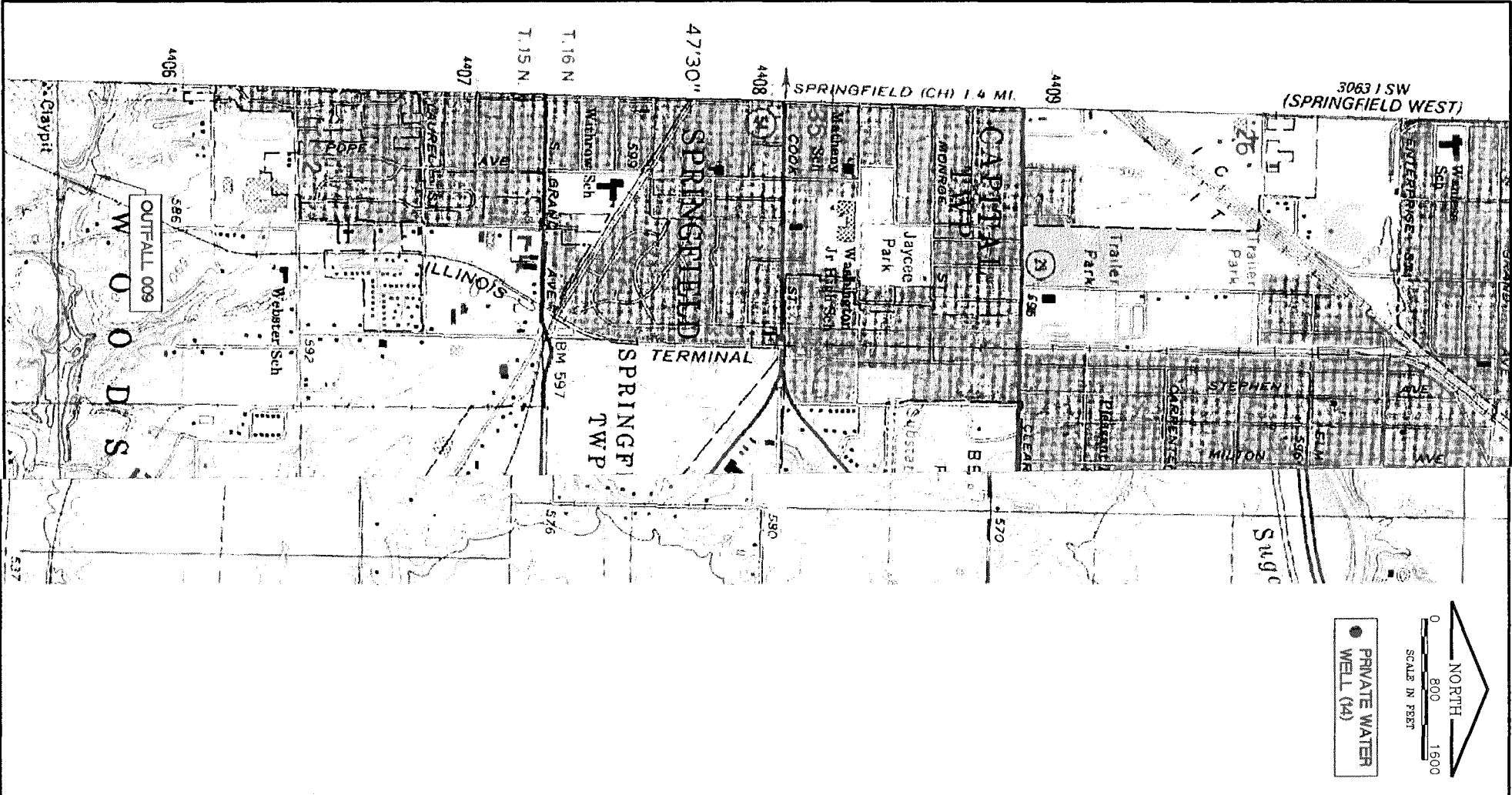
XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. *See Below

COMMENTS FOR OFFICIAL USE ONLY	
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EPA Form 3510-1 (8-90)

*Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h)).



FILE: GENERAL PLAN.dwg
DATE: Friday, October 04, 2013 8:44:57 AM

REVISIONS		
NUMBER	BY	DATE

0 1 2
THIS BAR IS EQUAL TO 2"
AT FULL SCALE (34X22).

**SPRINGFIELD METRO SANITARY DISTRICT
SPRINGFIELD, ILLINOIS**

SUGAR CREEK PLANT IMPROVEMENTS

GENERAL PLAN

CMT
CRAWFORD, MURPHY & TILLY, INC.
CONSULTING ENGINEERS
License No. 184-000613



DESIGN BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
DATE: SEPTEMBER 2013
JOB NO: 07030-50-00

FIGURE 1

SHEET OF SHEETS

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**FORM
2A
NPDES****NPDES FORM 2A APPLICATION OVERVIEW****APPLICATION OVERVIEW**

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. Additional Application Information for Applicants with a Design Flow \geq 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
1. Has a design flow rate greater than or equal to 1 mgd,
 2. Is required to have a pretreatment program (or has one in place), or
 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
1. Has a design flow rate greater than or equal to 1 mgd,
 2. Is required to have a pretreatment program (or has one in place), or
 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- G. Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**BASIC APPLICATION INFORMATION****PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:**

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name Springfield Metro Sanitary District - Sugar Creek WWTP

Mailing Address 3000 North Eighth Street
Springfield, IL 62707

Contact person Jeff W. Slead

Title Operations Subervisor

Telephone number (217) 528-0491

Facility Address 3300 Mechanicsburg Road
(not P.O. Box) Springfield, IL

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name Springfield Metro Sanitary District

Mailing Address 3000 North Eighth Street
Springfield, IL 62707

Contact person Jeff W. Slead

Title Operations Supervisor

Telephone number (217) 528-0491

Is the applicant the owner or operator (or both) of the treatment works?

☒ owner ☒ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

☐ facility ☒ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES IL0021971 PSD _____

UIC _____ Other 2006-SC-2668 (Sludge Land Application)

RCRA _____ Other _____

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
<u>See Attached page 2A</u>	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Total population served <u>41,000</u>			

FACILITY NAME AND PERMIT NUMBER

SMSD SUGAR CREEK WWTP IL0021971

BASIC APPLICATION INFORMATION

A. 4. Collection System Information

Community Name	Population Served	Type of Collection System	Ownership
Unincorporated Sangamon County	7,000	Combined	Municipal
Springfield	29,000	Combined	Municipal
Rochester	3,000	Separate	Municipal
Southern View	2,000	Separate	Municipal
Total Population	41,000		

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

 Form Approved 1/14/99
 OMB Number 2040-0086

A.5. Indian Country.

- a. Is the treatment works located in Indian Country?

☐ Yes ☒ No

- b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

☐ Yes ☐ No

- A.6. Flow.**
- Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

- a. Design flow rate
- 10.00
- mgd

	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>
b. Annual average daily flow rate	<u>11.04</u>	<u>14.84</u>	<u>15.18</u> mgd
c. Maximum daily flow rate	<u>29.67</u>	<u>32.42</u>	<u>31.12</u> mgd

- A.7. Collection System.**
- Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

<input checked="" type="checkbox"/> Separate sanitary sewer	<u>70.00</u> %
<input checked="" type="checkbox"/> Combined storm and sanitary sewer	<u>30.00</u> %

A.8. Discharges and Other Disposal Methods.

- a. Does the treatment works discharge effluent to waters of the U.S.?
- ☒
- Yes
- ☐
- No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	<u>1</u>
ii. Discharges of untreated or partially treated effluent	<u>1</u>
iii. Combined sewer overflow points	<u>1</u>
iv. Constructed emergency overflows (prior to the headworks)	<u>1</u>
v. Other	<u>NA</u>

- b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

- c. Does the treatment works land-apply treated wastewater?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

- d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?
- ☐
- Yes
- ☒
- No

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____

mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)?

_____ Yes

_____ ☒ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

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WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 008 STP Outfall
- b. Location Springfield 62707
(City or town, if applicable) (Zip Code)
Sangamon IL
(County) (State)
39° 47' 37" N 89° 34' 55" W
(Latitude) (Longitude)
- c. Distance from shore (if applicable) _____ ft.
- d. Depth below surface (if applicable) _____ ft.
- e. Average daily flow rate 15.18 mgd
- f. Does this outfall have either an intermittent or a periodic discharge? _____ Yes ☒ No (go to A.9.g.)
- If yes, provide the following information:
- Number of times per year discharge occurs: _____
- Average duration of each discharge: _____
- Average flow per discharge: _____ mgd
- Months in which discharge occurs: _____
- g. Is outfall equipped with a diffuser? _____ Yes _____ No

A.10. Description of Receiving Waters.

- a. Name of receiving water Sugar Creek
- b. Name of watershed (if known) South Fork of the Sangamon River
- United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): _____
- United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 07130007
- d. Critical low flow of receiving stream (if applicable):
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

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A.11. Description of Treatment.

- a. What levels of treatment are provided? Check all that apply.

☒ Primary☒ Secondary☐ Advanced☐ Other. Describe: _____

- b. Indicate the following removal rates (as applicable):

Design BOD₅ removal or Design CBOD₅ removal 95.00 %

Design SS removal 95.00 %

Design P removal _____ %

Design N removal _____ %

Other _____ %

- c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Chlorine Gas. Used solely for storm water overflows.

If disinfection is by chlorination, is dechlorination used for this outfall?

☐ Yes☒ No

- d. Does the treatment plant have post aeration?

☐ Yes☒ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 008

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	7.50	s.u.			
pH (Maximum)	7.70	s.u.			
Flow Rate	33.93	MGD	15.18	MGD	365.00
Temperature (Winter)	12.00	Deg. C.	5.00	Deg. C.	24.00
Temperature (Summer)	25.00	Deg. C.	22.00	Deg. C.	24.00

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5							
	CBOD-5	6.00	mg/l	3.00	mg/l	23.00	5210-B	<1 mg/l
FECAL COLIFORM		1,800.00	col/100 ml	887.00	col/100 ml	3.00	9222-D	<1
TOTAL SUSPENDED SOLIDS (TSS)		10.00	mg/l	5.00	mg/l	23.00	2249-D	<1mg/l

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

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BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.
_____gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

THIS IS A COMBINED SEWER SYSTEM

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g. chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

Sugar Creek Plant Outfall 008

- Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

☒ Yes ____ No

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- c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

- d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule	Actual Completion
	MM / DD / YYYY	MM / DD / YYYY
- Begin construction	5 / 1 / 2015	/ /
- End construction	7 / 1 / 2018	/ /
- Begin discharge	7 / 1 / 2018	/ /
- Attain operational level	7 / 1 / 2018	/ /

- e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☒ No

Describe briefly: Facility Plan has been submitted to IEPA and is awaiting approval.

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 008 STP Outfall

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	1.20	mg/l	0.54	mg/l	23.00	4500 NH3-F	<0.01 mg/l
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN	11.70	mg/l	10.30	mg/l	23.00	4200D-G	<0.1 mg/l
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE	2.00	mg/l	1.00	mg/l	4.00	5220-B	<1 mg/l
PHOSPHORUS (Total)	1.98	mg/l	1.78	mg/l	4.00	4200-P	<0.05 mg/l
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER	*						

* - SEE ATTACHED ANALYSES

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

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OMB Number 2040-0086**BASIC APPLICATION INFORMATION****PART C. CERTIFICATION**

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:☒ Basic Application Information packet

Supplemental Application Information packet:

☒ Part D (Expanded Effluent Testing Data)☒ Part E (Toxicity Testing: Biomonitoring Data)☒ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)☒ Part G (Combined Sewer Systems)**ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Gregg S. Humphrey, Director/EngineerSignature Telephone number (217) 528-0491Date signed 10-22-13

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 008 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	<0.01	mg/l			<0.01	mg/l			4	3113B	<0.01 mg/l
ARSENIC	<0.005	mg/l			<0.005	mg/l			4	3113B	<0.005 mg/l
BERYLLIUM	0.004	mg/l			<0.002	mg/l			4	3113B	<0.001 mg/l
CADMIUM	0.001	mg/l			<0.001	mg/l			4	3113B	<0.001 mg/l
CHROMIUM	<0.01	mg/l			<0.01	mg/l			4	3113B	<0.01 mg/l
COPPER	0.006	mg/l			<0.004	mg/l			4	3113B	<0.002 mg/l
LEAD	<0.01	mg/l			<0.01	mg/l			4	3113B	<0.01 mg/l
MERCURY	0.0002	mg/l			<0.0002	mg/l			4	3112B	<0.0002 mg/l
NICKEL	0.010	mg/l			<0.004	mg/l			4	3113B	<0.001 mg/l
SELENIUM	<0.005	mg/l			<0.003	mg/l			4	3113B	<0.002 mg/l
SILVER	<0.005	mg/l			<0.004	mg/l			4	3113B	<0.003 mg/l
THALLIUM	<0.005	mg/l			<0.005	mg/l			4	3113B	<0.005 mg/l
ZINC	0.05	mg/l			<0.05	mg/l			4	3111B	<0.02 mg/l
CYANIDE	<0.01	mg/l			<0.01	mg/l			4	4500CN-D	<0.01 mg/l
TOTAL PHENOLIC COMPOUNDS	<0.005	mg/l			<0.005	mg/l			4	EPA 420.1	<0.005 mg/l
HARDNESS (AS CaCO ₃)											<0.002 mg/l
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

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Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	<MDL	µL/L			<MDL	µL/L			3	EPA 624	50 µL/L
ACRYLONITRILE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	50 µL/L
BENZENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
BROMOFORM	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
CARBON TETRACHLORIDE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
CLOROBENZENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
CHLORODIBROMO-METHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
CHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
2-CHLORO-ETHYL VINYL ETHER	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
CHLOROFORM	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
DICHLOROBROMO-METHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,1-DICHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,2-DICHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
TRANS-1,2-DICHLORO-ETHYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,1-DICHLOROETHYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,2-DICHLOROPROPANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,3-DICHLORO-PROPYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
ETHYLBENZENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
METHYL BROMIDE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
METHYL CHLORIDE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
METHYLENE CHLORIDE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,1,2,2-TETRACHLORO-ETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
TETRACHLORO-ETHYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
TOLUENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L

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Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
1,1,2-TRICHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
TRICHLOROETHYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L
VINYL CHLORIDE	<MDL	µL/L			<MDL	µL/L			3	EPA 624	5 µL/L

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	22.5 µL/L
2-CHLOROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
2,4-DICHLOROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
2,4-DIMETHYLPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
4,6-DINITRO-O-CRESOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	56.2 µL/L
2,4-DINITROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	56.2 µL/L
2-NITROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
4-NITROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	56.2 µL/L
PENTACHLOROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	56.2 µL/L
PHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
2,4,6-TRICHLOROPHENOL	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

BASE-NEUTRAL COMPOUNDS.

ACENAPHTHENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
ACENAPHTHYLENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	511.2 µL/L
ANTHRACENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
BENZIDINE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
BENZO(A)ANTHRACENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
BENZO(A)PYRENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L

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Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
BENZO(GH)PERYLENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
BENZO(K)FLUORANTHENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
BIS (2-CHLOROETHOXY) METHANE	<MDL	µL/L							3	EPA 625	11.2 µL/L
BIS (2-CHLOROETHYL)-ETHER	<MDL	µL/L							3	EPA 625	11.2 µL/L
BIS (2-CHLOROISO-PROPYL) ETHER	<MDL	µL/L							3	EPA 625	11.2 µL/L
BIS (2-ETHYLHEXYL) PHTHALATE	266	µL/L							3	EPA 625	11.2 µL/L
4-BROMOPHENYL PHENYL ETHER	<MDL	µL/L							3	EPA 625	11.2 µL/L
BUTYL BENZYL PHTHALATE	<MDL	µL/L							3	EPA 625	11.2 µL/L
2-CHLORONAPHTHALENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
4-CHLORPHENYL PHENYL ETHER	<MDL	µL/L							3	EPA 625	11.2 µL/L
CHRYSENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
DI-N-BUTYL PHTHALATE	<MDL	µL/L							3	EPA 625	11.2 µL/L
DI-N-OCTYL PHTHALATE	<MDL	µL/L							3	EPA 625	11.2 µL/L
DIBENZO(A,H) ANTHRACENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
1,2-DICHLOROBENZENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
1,3-DICHLOROBENZENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
1,4-DICHLOROBENZENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
3,3-DICHLOROBENZIDINE	<MDL	µL/L							3	EPA 625	11.2 µL/L
DIETHYL PHTHALATE	<MDL	µL/L							3	EPA 625	11.2 µL/L
DIMETHYL PHTHALATE	<MDL	µL/L							3	EPA 625	11.2 µL/L
2,4-DINITROTOLUENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
2,6-DINITROTOLUENE	<MDL	µL/L							3	EPA 625	11.2 µL/L
1,2-DIPHENYLHYDRAZINE	<MDL	µL/L							3	EPA 625	11.2 µL/L

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: _____ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
FLUORENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
HEXACHLOROBENZENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
HEXACHLOROBUTADIENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
HEXACHLOROCYCLO-PENTADIENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
HEXACHLOROETHANE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
INDENO(1,2,3-CD)PYRENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
ISOPHORONE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
NAPHTHALENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
NITROBENZENE	<MDL	µL/L			<MDL	µL/L			3		11.2 µL/L
N-NITROSODI-N-PROPYLAMINE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
N-NITROSODI- METHYLAMINE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
N-NITROSODI-PHENYLAMINE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
PHENANTHRENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
PYRENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L
1,2,4-TRICHLOROBENZENE	<MDL	µL/L			<MDL	µL/L			3	EPA 625	11.2 µL/L

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSES

FORM - 8C-1
SMSD-FILES
US-EPA

TEST (Results are in ppm;mg/l)	SUGAR CREEK PLANT												
	RAW WASTEWATER ANALYSES - 2010												
	MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
DATE		2		6			28			7			—
PHOSPHATE		1.10		0.97			1.60			1.40			1.27
NITRATE		1.3		2.0			0.4			0.8			1.1
OILS*		5		6			11			11			8
PHENOLS*		0.008		0.006			0.008			0.021			0.011
CYANIDE* (TOTAL)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
CYANIDE* (W.A.D.)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
ANTIMONY		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
ARSENIC		< 0.005		< 0.005			< 0.005			< 0.005			< 0.005
BARIUM		0.07		0.08			0.08			0.09			0.08
BERYLLIUM		< 0.001		< 0.001			< 0.004			< 0.001			< 0.002
CADMIUM		< 0.001		< 0.001			< 0.001			< 0.001			< 0.001
CHROMIUM (TOTAL)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
CHROMIUM (HEX)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
COPPER		0.021		0.039			0.021			0.077			0.040
FLUORIDE		0.7		0.8			0.8			1.4			0.9
IRON** (TOTAL)		0.5		2.5			0.6			0.7			1.1
IRON (DISSOLVED)		0.2		1.4						0.2			0.6
LEAD		0.02		0.04			< 0.01			0.03			< 0.03
MANGANESE		0.10		0.26			0.10			0.05			0.13
MERCURY		< 0.0002		< 0.0002			< 0.0002			< 0.0002			< 0.0002
MOLYBDENUM		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
NICKEL		0.007		0.005			< 0.005			0.010			< 0.007
SELENIUM		< 0.002		< 0.002			< 0.005			< 0.002			< 0.003
SILVER (TOTAL)		< 0.003		< 0.003			< 0.005			< 0.003			< 0.004
THALLIUM		< 0.005		< 0.005			< 0.005			< 0.005			< 0.005
ZINC		< 0.05		0.09			< 0.05			0.13			< 0.08

* ALL SAMPLES ARE 24 HOUR COMPOSITES EXCEPT OILS, PHENOLS, CYANIDE AND HEX CHROME.

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSES

FORM - 8C-1
SMSD-FILES
US-EPA

TEST (Results are in ppm;mg/l)	SUGAR CREEK PLANT													
	RAW WASTEWATER ANALYSES - 2011													
	MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	AVE.
DATE		8		5										—
PHOSPHATE		1.43		0.95										1.19
NITRATE		0.8		0.5										0.7
OILS*		20		7										14
PHENOLS*		0.022		0.008										0.015
CYANIDE* (TOTAL)		< 0.005		< 0.005									<	0.01
CYANIDE* (W.A.D.)		< 0.005		< 0.005									<	0.01
ANTIMONY		< 0.01		< 0.01									<	0.01
ARSENIC		< 0.005		< 0.005									<	0.005
BARIUM		0.13		0.13										0.13
BERYLLIUM		< 0.001		< 0.001									<	0.001
CADMIUM		< 0.001		< 0.001									<	0.001
CHROMIUM (TOTAL)		< 0.01		< 0.01									<	0.01
CHROMIUM (HEX)		< 0.01		< 0.01									<	0.01
COPPER		0.061		0.087										0.074
FLUORIDE		1.1		0.9										1.0
IRON** (TOTAL)		2.0		1.0										1.5
IRON (DISSOLVED)		0.2		< 0.1									<	0.1
LEAD		0.02		0.02										0.02
MANGANESE		0.26		0.16										0.21
MERCURY		< 0.0002		< 0.0002									<	0.0002
MOLYBDENUM		< 0.01		< 0.01									<	0.01
NICKEL		0.019		0.006										0.013
SELENIUM		< 0.002		< 0.002									<	0.002
SILVER (TOTAL)		< 0.003		< 0.003									<	0.003
THALLIUM		< 0.005		< 0.005									<	0.005
ZINC		0.229		0.093										0.161

* ALL SAMPLES ARE 24 HOUR COMPOSITES EXCEPT OILS, PHENOLS, CYANIDE AND HEX CHROME.

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSES

FORM - 8C-2
SMSD-FILES
US-EPA

TEST (Results are in ppm;mg/l)	SUGAR CREEK PLANT													
	SECONDARY WASTEWATER ANALYSES - 2010													
	MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	AVE.
DATE		2								7				—
PHOSPHATE		1.09								1.20				1.15
NITRATE		9.6								13.7				11.7
OILS*		2								2				2
PHENOLS*		< 0.005								0.007			< 0.006	
CYANIDE* (TOTAL)		< 0.01								< 0.01			< 0.01	
CYANIDE* (W.A.D.)		< 0.01								< 0.01			< 0.01	
ANTIMONY		< 0.01								< 0.01			< 0.01	
ARSENIC		< 0.005								< 0.005			< 0.005	
BARIUM		0.06								0.05			0.06	
BERYLLIUM		< 0.001								< 0.001			< 0.001	
CADMIUM		< 0.001								< 0.001			< 0.001	
CHROMIUM (TOTAL)		< 0.01								< 0.01			< 0.01	
CHROMIUM (HEX)		< 0.01								< 0.01			< 0.01	
COPPER		0.009								0.002			0.006	
FLUORIDE		0.6								1.3			1.0	
IRON** (TOTAL)		0.3								0.2			0.3	
IRON (DISSOLVED)		0.1								< 0.1			< 0.1	
LEAD		< 0.01								< 0.01			< 0.01	
MANGANESE		0.05								< 0.05			< 0.05	
MERCURY		< 0.0002								< 0.0002			< 0.0002	
MOLYBDENUM		< 0.01								< 0.01			< 0.01	
NICKEL		0.006								0.001			0.004	
SELENIUM		< 0.002								< 0.002			< 0.002	
SILVER (TOTAL)		< 0.003								< 0.003			< 0.003	
THALLIUM		< 0.005								< 0.005			< 0.005	
ZINC		< 0.05								< 0.05			< 0.05	

* ALL SAMPLES ARE 24 HOUR COMPOSITES EXCEPT OILS, PHENOLS, CYANIDE AND HEX CHROME.

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSES

FORM - 8C-3
SMSD-FILES
US-EPA

US-EPA

TEST (Results are in ppm;mg/l)	SUGAR CREEK PLANT												
	TERTIARY WASTEWATER ANALYSES - 2010												
	MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
DATE		2		6			28			7			—
PHOSPHATE		0.95		0.65			0.92			1.10			0.91
NITRATE		8.7		6.0			6.4			12.7			8.5
OILS*		< 1		< 1			2			1			< 1
PHENOLS*		< 0.005		< 0.005			< 0.005			< 0.005			< 0.005
CYANIDE* (TOTAL)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
CYANIDE* (W.A.D.)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
ANTIMONY		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
ARSENIC		< 0.005		< 0.005			< 0.005			< 0.005			< 0.005
BARIUM		0.06		< 0.05			0.05			0.05			< 0.05
BERYLLIUM		< 0.001		< 0.001			< 0.004			< 0.001			< 0.002
CADMIUM		< 0.001		< 0.001			< 0.001			< 0.001			< 0.001
CHROMIUM (TOTAL)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
CHROMIUM (HEX)		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
COPPER		0.006		< 0.002			< 0.005			< 0.002			< 0.004
FLUORIDE		0.4		0.7			0.7			1.1			0.7
IRON** (TOTAL)		0.1		< 0.1			0.1			0.1			< 0.1
IRON (DISSOLVED)		< 0.1		< 0.1						< 0.1			< 0.1
LEAD		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
MANGANESE		< 0.05		0.07			< 0.05			< 0.05			< 0.06
MERCURY		< 0.0002		< 0.0002			< 0.0002			< 0.0002			< 0.0002
MOLYBDENUM		< 0.01		< 0.01			< 0.01			< 0.01			< 0.01
NICKEL		0.010		< 0.001			< 0.005			< 0.001			< 0.004
SELENIUM		< 0.002		< 0.002			< 0.005			< 0.002			< 0.003
SILVER (TOTAL)		< 0.003		< 0.003			< 0.005			< 0.003			< 0.004
THALLIUM		< 0.005		< 0.005			< 0.005			< 0.005			< 0.005
ZINC		< 0.05		< 0.05			< 0.05			< 0.05			< 0.05

* ALL SAMPLES ARE 24 HOUR COMPOSITES EXCEPT OILS, PHENOLS, CYANIDE AND HEX CHROME.

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSES

FORM - 8C-3
SMSD-FILES
US-EPA

TEST (Results are in ppm;mg/l)	SUGAR CREEK PLANT													
	TERTIARY WASTEWATER ANALYSES - 2011													
	MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	AVE.
DATE		8		5										—
PHOSPHATE		1.06		1.20										1.13
NITRATE		11.6		8.2										9.9
OILS*		< 5		< 5										< 5
PHENOLS*		< 0.005		0.005										< 0.005
CYANIDE* (TOTAL)		< 0.005		< 0.005										< 0.005
CYANIDE* (W.A.D.)		< 0.005		< 0.005										< 0.005
ANTIMONY		< 0.01		< 0.01										< 0.01
ARSENIC		< 0.005		< 0.005										< 0.005
BARIUM		0.07		0.09										0.08
BERYLLIUM		< 0.001		< 0.001										< 0.001
CADMIUM		< 0.001		< 0.001										< 0.001
CHROMIUM (TOTAL)		< 0.01		< 0.01										< 0.01
CHROMIUM (HEX)		< 0.01		< 0.01										< 0.01
COPPER		0.004		< 0.002										< 0.003
FLUORIDE		0.9		0.7										0.8
IRON** (TOTAL)		0.2		< 0.1										< 0.2
IRON (DISSOLVED)		0.1		< 0.1										< 0.1
LEAD		< 0.01		< 0.01										< 0.01
MANGANESE		< 0.05		< 0.05										< 0.05
MERCURY		< 0.0002		< 0.0002										< 0.0002
MOLYBDENUM		< 0.01		< 0.01										< 0.01
NICKEL		0.001		< 0.001										< 0.001
SELENIUM		< 0.002		< 0.002										< 0.002
SILVER (TOTAL)		< 0.003		< 0.003										< 0.003
THALLIUM		< 0.005		< 0.005										< 0.005
ZINC		< 0.050		0.039										< 0.045

* ALL SAMPLES ARE 24 HOUR COMPOSITES EXCEPT OILS, PHENOLS, CYANIDE AND HEX CHROME.

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSIS

FORM - BA-1

SMSD-FILES

RECEIVING STREAMS - APRIL AND AUGUST, 2010

[illegible]

SPRINGFIELD METRO SANITARY DISTRICT

SPECIAL ANALYSIS

RECEIVING STREAMS - APRIL AND AUGUST, 2011

FORM - 8A-1
SMSD-FILES

TEST	CREEK AND RIVER ANALYSES									
	SUGAR CREEK UPSTREAM		SUGAR CREEK DOWNSTREAM		SANGAMON RIVER UPSTREAM		SANGAMON RIVER DOWNSTREAM		SANGAMON RIVER WALNUT STREET	
SAMPLE DATE	April 5		April 5		April 5		April 5		April 5	
UNITS	ppm (mg/l)		ppm (mg/l)		ppm (mg/l)		ppm (mg/l)		ppm (mg/l)	
PHOSPHATE	0.06		0.31		1.10		0.71		0.70	
NITRATE	4.9		5.0		10.3		9.2		9.0	
OILS	< 5		< 5		< 5		< 5		< 5	
PHENOLS	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005	
CYANIDE (TOTAL)	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005	
CYANIDE (W.A.D.)	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005	
ANTIMONY	< 0.01		< 0.01		< 0.01		< 0.01		< 0.01	
ARSENIC	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005	
BARIUM	0.24		0.11		0.12		0.12		0.14	
BERYLLIUM	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	
CADMIUM	< 0.001		< 0.001		< 0.001		< 0.001		< 0.001	
CHROMIUM (TOTAL)	< 0.01		< 0.01		< 0.01		< 0.01		< 0.01	
COPPER	0.014		0.229		0.034		0.027		0.017	
FLUORIDE	0.3		0.5		0.3		0.3		0.3	
IRON (TOTAL)	0.4		1.1		0.5		0.6		1.1	
IRON (DISSOLVED)	< 0.1		< 0.1		< 0.1		< 0.1		< 0.1	
LEAD	< 0.01		0.02		0.01		0.01		0.01	
MANGANESE	0.09		0.24		0.07		0.08		0.12	
MERCURY	< 0.0002		< 0.0002		0.0002		< 0.0002		< 0.0002	
MOLYBDENUM	0.03		0.02		< 0.01		< 0.01		< 0.01	
NICKEL	0.005		0.016		0.007		0.006		0.006	
SELENIUM	< 0.002		< 0.002		< 0.002		< 0.002		< 0.002	
SILVER	< 0.003		< 0.003		< 0.003		< 0.003		< 0.003	
THALLIUM	< 0.005		< 0.005		< 0.005		< 0.005		< 0.005	
ZINC	< 0.025		0.096		0.032		0.025		0.037	

Sugar Creek Above, Plant Effluent and Creek Below Fecal Coliform

2010 through present

Date	Creek Above	Plant Effluent	Creek Below	
1-12-2010		40	700	660
2-2		50	1230	90
2-17		100	1175	90
2-23		40	2300	130
3-2		10	1230	195
3-9		0	6100	390
3-16		10	1330	300
3-23		20	520	80
3-30		10	330	440
4-6		60	900	450
4-20		120	330	150
4-27		470	830	1000
5-4		70	3500	110
5-11		235	7300	2050
5-18		735	2100	680
5-25		125	410	1000
6-2		670	9900	11700
6-8		390	3200	170
6-15		420	10000	1485
6-22		1900	14700	2105
6-29		250	1980	460
7-7		530	2000	420
7-13		230	1510	260
7-27		175	5800	160
8-3		230	1600	160
8-10		180	1075	280
8-17		160	415	745
8-24		385	320	470
8-31		490	5300	5800
9-8		220	1385	680
9-14		150	470	340
9-21		150	6300	870
9-28		1150	290	4900
10-5		95	2300	500
10-12		70	140	210
10-19		60	818	150
10-26		73	62	2000
11-2		90	140	740
11-9		110	20000	2200
11-16		240	470	250
12-7		110	1800	200
12-21		50	660	250
1-4-2011		110	530	130
1-25		70	1050	250
2-15		120	2900	330
2-23		10	2000	50
3-1		10	845	10
3-8		10	4300	420
3-15		10	5600	60
3-22		10	760	550
3-29		20	290	10
4-5		140	825	410
4-12		260	260	1090
4-20		1035	770	1638
4-26		160	1860	1140
5-3		50	730	1600
5-10		60	260	80
5-17		110	10	560
5-24		140	370	470

Springfield Metro Sanitary District
Sugar Creek facility and River Phosphorus 2010

Month	Raw	Tertiary	Creek Above	Creek Below	River Above	River Below
Jan	2.07	1.08				
	2.51	1.10	0.34	1.00	0.48	0.65
	2.12	2.27				
	1.04	1.01				
Feb	3.10	1.87	0.47	0.53	0.78	0.47
	1.29	0.85				
	2.02	1.08	0.54	0.59	1.07	0.68
	1.05	0.88	0.51	0.51	0.82	0.90
March	1.60	0.75	0.45	0.38	0.90	0.54
	2.30	1.06	0.24	0.39	0.70	0.53
	2.61	0.85	0.46	0.36	0.36	0.44
April	2.01	0.74	0.34	0.54	0.34	0.32
	2.83	0.95				
	2.64	1.01	0.31	0.87	0.44	0.59
	1.47	1.10	0.42	0.29	0.64	0.74
May	2.44	1.01	0.26	0.20	0.54	0.51
	3.11	0.94	0.54	0.41	0.90	0.56
	1.29	0.84	0.38	0.76	1.11	0.72
	2.22	0.60	0.13	0.24	0.53	0.44
June	2.05	0.82	0.23	0.86	1.00	0.85
	2.33	0.80	0.24	0.30	1.10	1.02
	1.14	0.70	0.27	0.21	0.39	0.44
	1.54	0.47	0.19	0.15	0.33	0.32
	1.98	1.17	0.24	0.63	0.60	0.47
July	3.04	0.92	0.25	0.38	1.12	0.76
	3.26	1.12	0.21	0.39	1.25	0.97
	0.96	0.95				
	1.35	1.08	0.35	0.35	0.54	0.64
Aug	2.19	0.99	0.42	0.69	1.18	0.65
	2.95	1.05	0.23	0.52	2.09	1.57
	2.37	1.25	0.29	0.58	5.02	3.44
	2.26	1.31	0.48	0.68	5.58	1.52
	3.05	1.38	0.41	0.58	3.94	2.06
Sept	2.12	1.20	0.46	0.67	1.26	0.85
	2.13	0.91	0.43	0.46	3.06	1.13
	3.48	1.37	0.48	0.63	3.60	1.33
	4.84	1.45	0.58	0.64	2.43	1.15
Oct	3.02	1.12	0.45	1.12	3.44	1.60
	4.41	1.05	0.63	0.36	0.72	1.82
	4.13	1.68	0.33	0.86	4.52	2.60
	3.32	1.89	0.43	0.86	4.65	3.07
Nov	4.60	2.29	0.34	1.51	5.04	3.44
	4.01	1.95	0.27	0.60	5.68	4.33
	4.87	2.14	0.28	1.06	7.34	4.53
	5.46	2.60	0.37	1.19	6.84	5.23
	2.78	1.16	0.27	0.67	1.63	2.11
Dec	3.87	1.14	0.14	0.20	0.84	0.40
	3.81	2.07				
	3.07	1.18	0.09	0.63	1.75	0.82
	3.30	2.74				

Creek Above = Sugar Creek Above Plant Discharge Point
Creek Below = Sugar Creek Below Plant Discharge Point
River Above = Sangamon River Above Confluence With Sugar Creek
River Below = Sangamon River Below Confluence With Sugar Creek

2010 Sugar Creek Data for Stream Above Sugar Creek Facility

Date	Time	Temp	pH	D.O.	BOD5	Suspended Solids	Fecal Coliforms	Ammonia	Un-ionized Ammonia
1-12	8:01	6.0	7.5	12.3	3	24	40	1.1	0.005
2-2	8:15	4.0	7.4	12.6	3	10	50	0.2	0.001
2-17	8:45	1.7	7.3	12.0	4	27	100	0.3	0.001
2-23	8:15	4.2	7.5	12.4	4	4	40	0.5	0.002
3-2	8:15	4.5	7.6	13.3	3	9	10	0.5	0.003
3-9	8:00	7.9	7.7	11.7	3	6	0	0.6	0.005
3-16	7:55	8.5	7.7	11.5	2	10	10	0.1	0.001
3-23	8:33	9.4	8.0	10.8	3	8	20	0.1	0.002
3-30	8:17	10.4	8.2	11.2	4	4	10	0.1	0.003
4-6	8:40	16.0	8.3	9.5	5	9	60	0.1	0.006
4-20	7:50	14.9	7.6	7.3	2	25	120	0.4	0.005
4-27	8:18	16.0	7.7	7.2	3	25	470	0.2	0.003
5-4	9:00	18.8	7.9	8.0	2	29	70	0.1	0.003
5-11	8:40	17.0	8.3	8.1	5	37	235	0.1	0.006
5-18	8:20	17.3	8.3	7.8	3	126	735	0.1	0.006
5-25	8:15	23.0	8.6	7.3	6	30	125	0.1	0.017
6-2	7:48	26.1	9.0	6.0	5	39	670	0.1	0.039
6-8	7:30	25.0	8.8	5.0	4	26	390	0.1	0.027
6-15	8:27	27.0	8.2	6.1	1	11	420	0.1	0.010
6-22	8:06	29.0	8.9	6.0	3	30	1900	0.1	0.039
6-29	8:15	26.8	7.7	3.8	2	11	250	0.1	0.003
7-7	8:10	28.2	8.4	3.2	2	24	530	0.2	0.032
7-13	7:56	28.3	8.2	1.3	1	1	230	0.2	0.021
7-27	8:30	29.8	8.8	5.5	3	21	175	0.1	0.035
8-3	8:30	29.6	8.9	2.3	1	18	230	0.1	0.040
8-10	8:45	29.2	7.6	1.5	1	15	180	0.2	0.006
8-17	8:01	26.8	7.9	2.9	3	43	160	0.2	0.010
8-24	8:03	27.3	8.2	5.6	2	29	385	0.1	0.010
8-31	7:49	26.7	7.6	3.1	2	6	490	0.2	0.005
9-8	7:30	23.6	8.4	5.9	2	25	220	0.1	0.012
9-14	7:45	22.4	7.5	6.2	2	24	150	0.1	0.002
9-21	8:00	25.4	8.2	5.5	3	127	150	0.3	0.027
9-28	8:35	20.5	7.5	6.5	2	30	1150	0.1	0.001
10-5	8:00	15.9	7.9	6.9	1	8	95	0.1	0.002
10-12	8:00	18.8	7.9	6.2	2	20	70	0.2	0.006
10-19	8:30	14.1	7.3	6.7	2	22	60	0.1	0.001
10-26	8:26	18.2	8.3	5.9	4	29	73	0.2	0.014
12-7	8:00	4.6	7.4	12.6	4	6	110	0.1	0.001
12-21	7:35	4.9	6.9	13.0	4	5	50	0.9	0.001
Average		18.1	8.0	7.5	3	24	262	0.2	0.011

< removed in ammonia, un-ionized ammonia and fecal coliform columns to make calculations possible.

2010 Sugar Creek Data for Stream Below Sugar Creek Facility

Date	Time	Temp	pH	D.O.	BOD5	Suspended Solids	Fecal Coliforms	Ammonia	Un-ionized Ammonia
1-12	8:20	1.9	7.9	11.3	2	20	660	0.8	0.006
2-2	8:35	3.4	7.9	12.5	3	17	90	0.2	0.002
2-17	9:28	2.7	8.1	12.3	3	27	90	0.4	0.005
2-23	8:33	3.4	7.8	12.8	3	7	130	0.4	0.003
3-2	8:30	4.2	8.0	12.7	3	18	195	0.7	0.009
3-9	8:21	11.3	8.0	7.4	3	11	390	0.5	0.011
3-16	8:10	8.4	8.1	11.2	2	15	300	0.1	0.002
3-23	8:50	9.3	8.2	10.3	3	9	80	0.1	0.003
3-30	8:45	10.3	8.4	11.1	3	10	440	0.1	0.005
4-6	9:00	16.3	8.6	9.3	5	32	450	0.1	0.011
4-20	8:05	13.4	7.8	8.4	2	32	150	0.3	0.005
4-27	8:32	15.6	8.0	6.9	4	44	1000	0.4	0.012
5-4	9:10	18.1	8.4	7.8	3	62	110	0.1	0.008
5-11	8:15	16.0	8.3	8.0	6	66	2050	0.3	0.018
5-18	9:00	17.2	8.6	8.3	5	52	680	0.4	0.048
5-25	8:32	23.0	8.8	6.9	6	45	1000	0.1	0.025
6-2	8:05	25.5	8.9	6.1	6	128	11700	0.1	0.025
6-8	7:45	24.0	8.8	4.8	3	37	170	0.1	0.026
6-15	8:45	27.0	8.4	6.3	2	19	1485	0.1	0.015
6-22	8:18	28.0	8.7	4.8	3	30	2105	0.1	0.027
6-29	8:37	26.8	7.9	3.7	1	12	460	0.1	0.005
7-7	8:25	27.9	8.1	3.3	2	43	420	0.3	0.025
7-13	8:12	25.9	7.9	3.9	1	19	260	0.2	0.010
7-27	8:40	29.1	9.1	5.9	3	18	160	0.1	0.050
8-3	8:40	28.9	8.6	3.9	1	43	160	0.1	0.024
8-10	9:00	27.1	7.8	4.0	2	49	280	0.3	0.013
8-17	8:20	24.9	7.6	3.5	3	38	745	0.3	0.007
8-24	8:22	27.0	8.5	5.9	2	53	470	0.1	0.018
8-31	8:03	25.7	7.9	4.3	2	18	5800	0.2	0.010
9-8	8:07	23.0	8.2	6.0	2	47	680	0.1	0.008
9-14	8:02	22.7	8.1	6.3	3	46	340	0.1	0.006
9-21	9:00	25.6	8.5	6.5	3	74	870	0.1	0.017
9-28	8:50	19.8	7.9	6.4	3	57	4900	0.2	0.006
10-5	8:20	15.2	8.0	7.0	1	12	500	0.1	0.003
10-12	8:26	19.5	7.8	5.8	2	32	210	0.2	0.005
10-19	8:54	13.5	7.7	6.7	1	20	150	0.2	0.003
10-26	8:38	18.4	7.8	4.7	5	73	2000	0.9	0.021
12-7	8:16	5.9	7.7	12.5	4	5	200	0.1	0.001
12-21	7:52	4.2	7.6	11.5	3	1	250	0.6	0.003
Average		17.7	8.2	7.5	2.9	34	1080	0.2	0.013

< removed in ammonia, un-ionized ammonia and fecal coliform columns to make calculations possible.

2010 Sangamon River Data for River Above Sugar Creek Sample

Date	Time	Temp	pH	D.O.	BOD5	Suspended Solids	Fecal Coliforms	Amm.	Un-ionized Ammonia
1-12	8:29	0.6	8.7	13.1	3	27	310	0.2	0.009
2-2	8:45	1.8	8.1	12.3	3	32	140	0.1	0.001
2-17	9:05	1.6	8.4	13.7	4	23	70	0.1	0.002
2-23	8:45	1.0	8	13.5		45	4300	0.6	0.006
3-2	8:45	2.7	8.2	14.1	3	37	95	0.3	0.005
3-9	8:37	12.8	8.2	4.9	3	24	70	0.3	0.011
3-16	8:15	8.0	8.3	11.5	2	48	180	0.1	0.003
3-23	9:06	9.0	8.2	9.0	2	25	120	0.1	0.003
3-30	8:55	9.3	8.3	11.4	3	48	200	0.1	0.004
4-6	9:18	16.8	8.1	9.0	2	48	60	0.1	0.004
4-20	8:15	15.0	8.5	9.4	4	20	90	0.1	0.008
4-27	8:45	14.8	8.2	8.4	3	51	610	0.1	0.004
5-4	9:25	18.8	8.3	8.2	2	55	270	0.1	0.007
5-11	8:56	17.0	8.4	8.0	3	56	137	0.1	0.008
5-18	8:37	14.4	8	8.2	4	124	3400	0.1	0.003
5-25	8:41	22.0	8.3	7.6	2	52	150	0.4	0.035
6-2	8:25	23.5	8.3	8.6	2	158	370	0.1	0.010
6-8	8:00	23.0	8.2	6.8	1	94	240	0.1	0.008
6-15	8:55	24.0	8	6.1	2	54	1745	0.1	0.005
6-22	8:32	26.0	7.9	5.0	1	38	270	0.1	0.005
6-29	8:49	25.4	8	5.8	2	53	210	0.1	0.006
7-7	8:50	26.8	8.2	6.5	1	68	170	0.1	0.010
7-13	8:22	26.0	8.4	7.1	3	53	190	0.1	0.014
7-27	8:50	27.7	8.3	6.4	1	82	120	0.1	0.013
8-3	8:55	26.3	8.4	7.3	3	44	110	0.1	0.014
8-10	9:11	27.8	8.5	6.5	4	46	80	0.1	0.019
8-17	8:33	25.8	8.2	5.7	3	58	210	0.2	0.018
8-24	8:37	25.1	8.3	6.8	3	51	360	0.1	0.011
8-31	8:15	24.2	8.4	6.2	4	53	200	0.1	0.012
9-8	8:17	20.9	8.2	6.6	2	70	1900	0.1	0.007
9-14	8:12	21.0	8.2	7.1	1	29	370	0.1	0.007
9-21	8:25	22.4	8.4	6.7	3	39	460	0.1	0.011
9-28	9:00	16.2	8.2	8.2	2	36	430	0.1	0.005
10-5	8:40	12.1	8.3	9.0	1	5	170	0.1	0.004
10-12	8:35	17.9	8.3	7.9	1	18	290	0.1	0.007
10-19	9:08	17.8	8.2	9.1	3	13	20	0.1	0.005
10-26	8:57	17.2	8.1	7.2	3	40	55	0.1	0.004
12-7	8:30	1.9	8.1	15.4	3	11	360	0.1	0.001
12-21	8:04	2.4	8.2	13.3	3	1	160	0.5	0.008
Average		16.6	8.2	8.7	2.5	47	479	0.1	0.008

< removed in ammonia, un-ionized ammonia and fecal coliform columns to make calculations possible.

2010 sangamon River Data for River Above Spring Creek Sample

Date	Time	Temp	pH	D.O.	BOD5	Suspended	Fecal	Amm.	Un-Ionized
						Solids	Coliforms		Ammonia
1-12	8:38	2.2	8.5	12.3	3	23	140	0.2	0.00642
2-2	9:00	1.8	8.1	13.0	4	34	150	0.1	0.00100
2-17	9:18	1.7	8.3	13.4	3	13	60	0.2	0.00394
2-23	9:00	1.8	7.9	13.4	4	59	6700	0.8	0.00640
3-2	9:00	3.5	8.1	13.7	4	57	130	0.2	0.00290
3-9	8:50	12.5	8.2	5.2	3	54	100	0.3	0.01095
3-16	8:25	8.3	8.1	11.2	2	46	100	0.1	0.00212
3-23	9:21	9.2	8.2	10.4	2	29	40	0.1	0.00284
3-30	9:07	9.5	8.2	11.3	3	73	330	0.1	0.00291
4-6	9:48	16.1	8.2	9.4	2	41	220	0.1	0.00500
4-20	8:25	14.8	8.4	9.5	3	39	80	0.1	0.00700
4-27	8:55	14.7	8.0	7.9	4	130	940	0.3	0.00825
5-4	9:30	18.1	8.2	7.9	2	68	240	0.1	0.00500
5-11	9:05	15.0	8.3	9.2	3	73	587	0.1	0.00500
5-18	8:48	16.2	8.2	7.8	4	114	2500	0.1	0.00478
5-25	8:52	22.0	8.3	7.5	3	69	170	0.1	0.00900
6-2	8:40	24.0	8.3	6.2	2	101	2205	0.1	0.01000
6-8	8:15	23.0	8.1	7.6	1	63	210	0.1	0.00500
6-15	9:05	24.0	8.0	6.0	1	71	3200	0.1	0.00530
6-22	8:58	26.0	7.9	5.1	1	57	1275	0.1	0.00500
6-29	9:12	25.6	8.1	5.3	1	43	440	0.1	0.00700
7-7	9:15	26.7	8.1	5.7	1	78	130	0.1	0.00786
7-13	9:10	26.0	8.2	6.5	2	58	180	0.1	0.00927
7-27	9:10	27.5	8.2	5.9	2	95	790	0.1	0.01000
8-3	9:15	26.3	8.1	6.1	2	71	90	0.1	0.00800
8-10	9:20	27.6	8.3	6.1	2	35	160	0.1	0.01300
8-17	8:45	25.9	8.1	5.4	3	62	200	0.1	0.00700
8-24	8:54	25.3	7.9	5.3	3	155	675	0.1	0.00500
8-31	8:25	24.3	8.1	5.8	2	52	290	0.1	0.00672
9-8	8:32	21.1	8.2	5.5	2	104	1600	0.1	0.00700
9-14	8:28	20.7	7.9	6.6	2	57	890	0.1	0.00300
9-21	8:45	22.9	8.3	6.5	2	54	240	0.1	0.00900
9-28	9:20	17.6	8.1	7.3	2	49	2500	0.1	0.00424
10-5	8:50	13.0	8.2	8.6	1	12	140	0.1	0.00400
10-12	8:47	17.4	8.2	7.8	1	28	160	0.1	0.00500
10-19	9:24	12.1	8.1	8.8	1	16	60	0.1	0.00300
10-26	9:12	16.1	8.0	6.5	4	120	81	0.2	0.00609
12-7	8:48	2.3	8.0	12.9	3	15	470	0.1	0.00105
12-21	8:14	1.4	8.1	13.5	3	1	90	0.2	0.00244
Average		16.5	8.1	8.3	2	60	732	0.14	0.00583

< removed in ammonia, un-ionized ammonia and fecal coliform columns to make calculations possible.

2010 River Data for River Below Spring Creek #24 Sample

Date	Time	Temp	pH	D.O.	BOD5	Suspended Solids	Fecal Coliforms	Amm.	Un-ionized Ammonia
1-12	9:00	0.2	7.7	13.6	4	6	240	0.1	0.00200
2-2	9:00	1.5	7.9	13.3	4	34	250	0.1	0.00100
2-17	9:00	1.5	7.7	13.5	3	18	100	0.1	0.00100
2-23	8:50	2.2	7.3	12.5	4	136	460	0.6	0.00125
3-2	8:50	2.9	7.7	12.5	3	40	70	0.2	0.00111
3-9	8:50	5.4	7.6	11.7	3	18	280	0.1	0.00054
3-16	8:25	8.1	7.8	10.4	4	32	160	0.1	0.00106
3-23	7:35	8.9	7.8	10.9	3	34	160	0.1	0.00113
3-30	8:25	9.3	7.7	10.6	3	98	440	0.5	0.00462
4-6	7:35	15.4	7.9	9.1	3	72	1400	0.1	0.00231
4-20	7:50	14.5	7.8	9.6	3	32	230	0.1	0.00200
4-27	9:00	14.6	7.7	8.5	3	100	1375	0.4	0.00555
5-4	9:33	18.2	8.0	8.6	3	62	270	0.1	0.00354
5-11	10:30	15.2	7.9	9.4	4	60	4700	0.1	0.00200
5-18	7:50	15.0	8.0	8.7	3	130	4500	0.2	0.00562
5-25	8:35	21.8	8.1	8.0	4	64	1800	0.1	0.00600
6-2	8:55	22.9	7.7	7.4	3	80	7100	0.1	0.00300
6-8	8:55	22.7	8.0	7.2	2	60	920	0.1	0.00500
6-15	9:50	24.0	7.8	6.6	2	58	3500	0.1	0.00341
6-22	7:40	25.8	7.5	5.5	2	24	1800	0.1	0.00197
6-29	8:30	25.2	7.5	4.1	2	20	490	0.1	0.00200
7-7	8:30	26.6	7.8	6.3	2	56	255	0.1	0.00407
7-13	8:30	25.7	7.8	7.7	2	62	250	0.1	0.00400
7-27	8:30	27.3	7.8	5.9	2	108	610	0.1	0.00400
8-3	8:45	25.9	7.7	7.3	3	51	900	0.1	0.00300
8-10	9:10	27.2	8.3	7.6	4	49	290	0.1	0.01228
8-17	9:15	26.2	8.0	6.1	4	43	860	0.2	0.01228
8-24	9:15	25.0	7.2	6.2	2	22	2600	0.1	0.00094
8-31	7:40	23.0	7.7	7.2	3	57	930	0.4	0.01018
9-8	7:25	21.2	7.0	7.1	3	53	1500	0.1	0.00100
9-14	8:35	21.0	7.8	8.0	4	21	630	0.1	0.00277
9-21	9:00	22.6	7.7	7.2	3	27	740	0.1	0.00200
9-28	8:30	17.2	7.8	7.8	2	32	430	0.1	0.00211
10-5	9:00	13.6	7.8	9.2	1	10	570	0.1	0.00200
10-12	8:50	17.8	7.9	8.0	2	24	580	0.3	0.00827
10-19	8:00	13.1	7.7	9.5	2	4	150	0.5	0.00619
10-26	8:16	16.5	7.9	8.1	3	26	300	0.5	0.01254
12-7	8:40	2.0	7.9	15.4	6	21	340	0.1	0.00081
12-21	8:50	1.6	7.9	13.3	3	13	270	0.4	0.00315
Average		16.1	7.8	9.0	3	48	1088	0.18	0.00379

< removed in ammonia, un-ionized ammonia and fecal coliform columns to make calculations possible.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**SUPPLEMENTAL APPLICATION INFORMATION****PART E. TOXICITY TESTING DATA**

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

9 chronic 9 acute *Results submitted. See following pages for results

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: _____ Test number: _____ Test number: _____

a. Test information.

Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			

b. Give toxicity test methods followed.

Manual title			
Edition number and year of publication			
Page number(s)			

c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.

24-Hour composite			
Grab			

d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)

Before disinfection			
After disinfection			
After dechlorination			

FACILITY NAME AND PERMIT NUMBER: Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

Test number: _____				Test number: _____				Test number: _____			
e. Describe the point in the treatment process at which the sample was collected.											
Sample was collected:											
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.											
Chronic toxicity											
Acute toxicity											
g. Provide the type of test performed.											
Static											
Static-renewal											
Flow-through											
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.											
Laboratory water											
Receiving water											
i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.											
Fresh water											
Salt water											
j. Give the percentage effluent used for all concentrations in the test series.											
k. Parameters measured during the test. (State whether parameter meets test method specifications)											
pH											
Salinity											
Temperature											
Ammonia											
Dissolved oxygen											
l. Test Results.											
Acute:											
Percent survival in 100% effluent				%				%			
LC ₅₀											
95% C.I.				%				%			
Control percent survival				%				%			
Other (describe)											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**Chronic:**

NOEC	%	%	%
IC ₂₅	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____ Yes ☒ No If yes, describe: _____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

*See following pages for dates submitted and summary sheets for each biomonitoring test.
_____**END OF PART E.****REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.**

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

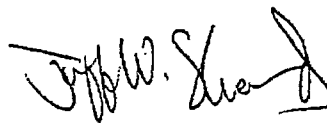
5/22/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for April 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the last sample in the series.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff W. Slead", with a stylized flourish at the end.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT
ACUTE TOXICITY TESTS

Conducted April 25 through 29, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by

S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070449

May 2007

A070449

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from April 25 through 29, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from April 25 through 29, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070449.01	4/24/07	4/25-29/07
Effluent	070449.02	4/23-24/07	4/25-29/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
April 25 through 27, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
April 25 through 29, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	11 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
April 25 through 29, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC_{50}	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

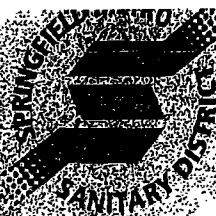
The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on April 24, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

6/8/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for MAY 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the last sample in the series.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491.

Sincerely,

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT
ACUTE TOXICITY TESTS

Conducted May 16 through 20, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by
S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070538

June 2007

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from May 16 through 20, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from May 16 through 20, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070538.01	5/15/07	5/16-20/07
Effluent	070538.02	5/14-15/07	5/16-20/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
May 16 through 18, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
May 16 through 20, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	11 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
May 16 through 20, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC_{50}	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on May 15, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

7/9/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for JUNE 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in black ink that reads 'Jeff W. Slead'.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT
ACUTE TOXICITY TESTS

Conducted June 13 through 17, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by
S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070628

July 2007

A070628

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from June 13 through 17, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from June 13 through 17, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070628.01	6/11/07	6/13-17/07
Effluent	070628.02	6/11-12/07	6/13-17/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 13 through 15, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 \pm 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 13 through 17, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	11 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 13 through 17, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on June 12, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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7/31/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for JULY 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff W. Slead'.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT

ACUTE TOXICITY TESTS

Conducted July 11 through 15, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by

S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070715

July 2007

A070715

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from July 11 through 15, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from July 11 through 15, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070715.01	7/10/07	7/11-15/07
Effluent	070715.02	7/9-10/07	7/11-15/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
July 11 through 13, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
July 11 through 15, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	14 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
July 11 through 15, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

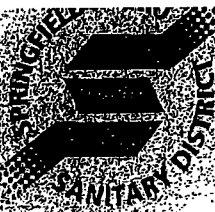
The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on July 10, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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Springfield, IL 62794-9276

9/6/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for AUGUST 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff W. Slead'.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT

ACUTE TOXICITY TESTS

Conducted August 8 through 12, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by

S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070823

August 2007

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from August 8 through 12, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from August 8 through 12, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070823.01	8/7/07	8/8-12/07
Effluent	070823.02	8/6-7/07	8/8-12/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
August 8 through 10, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
August 8 through 12, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	13 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
August 8 through 12, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on August 7, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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10/10/2007

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971, plant discharges for SEPTEMBER 2007. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the last in the series.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in black ink that reads 'Jeff W. Slead'.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT
ACUTE TOXICITY TESTS

Conducted September 12 through 16, 2007

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by
S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
6125 West National Avenue
Milwaukee, WI 53214

Lab I.D. No. 070927

October 2007

A070927

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from September 12 through 16, 2007, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from September 12 through 16, 2007, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	070927.01	9/11/07	9/12-16/07
Effluent	070927.02	9/10-11/07	9/12-16/07

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 12 through 14, 2007

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 12 through 16, 2007

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	7 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC_{50} analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 12 through 16, 2007

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	95
Sugar Creek Control	100	100
6.25% Effluent	100	90
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	95
LC_{50}	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

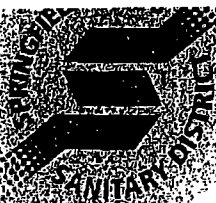
The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on September 11, 2007 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC_{50} value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. Weber, C.I. (ed.). 1993. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fourth Edition). EPA/600/4-90/027F. U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio. 293 p.

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6/25/2010

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Spring Creek permit IL0021971 plant discharges for June 2010. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the 18th month and first sample.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

A handwritten signature in dark ink, appearing to read 'Jeff W. Slead'.

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT

ACUTE TOXICITY TESTS

Conducted June 9 through 13, 2010

**Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois**

**Prepared by
S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
2345 South 170th Street
New Berlin, WI 53151**

Lab I.D. No. TF0255

June 2010

ATF0255

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from June 9 through 13, 2010, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from June 9 through 13, 2010, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	TF0255.01	6/8/10	6/9-13/10
Effluent	TF0255.02	6/7-8/10	6/9-13/10

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 9 through 11, 2010

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 9 through 13, 2010

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	11 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 \pm 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
June 9 through 13, 2010

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	95
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

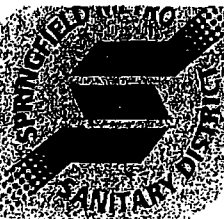
The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on June 8, 2010 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. U.S. EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fifth Edition). EPA-821-R-02-012. U.S. EPA, Environmental Protection Agency, Office of Water, Washington, DC. 266 p.

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10/8/2010

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Spring Creek permit IL0021971 plant discharges for September 2010. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the 15th month and second sample.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT
ACUTE TOXICITY TESTS

Conducted September 15 through 19, 2010

Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois

Prepared by
S-F ANALYTICAL LABORATORIES
Bioassay Laboratory
2345 South 170th Street
New Berlin, WI 53151

Lab I.D. No. TI0463

September 2010

ATI0463

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from September 15 through 19, 2010, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from September 15 through 19, 2010, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	TI0463.01	9/14/10	9/15-19/10
Effluent	TI0463.02	9/13-14/10	9/15-19/10

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory.

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
Ceriodaphnia Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 15 through 17, 2010

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one receiving water grab sample. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 15 through 19, 2010

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	13 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
September 15 through 19, 2010

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	95
25% Effluent	100	100
50% Effluent	100	100
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on September 14, 2010 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. U.S. EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fifth Edition). EPA-821-R-02-012. U.S. EPA, Environmental Protection Agency, Office of Water, Washington, DC. 266 p.

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Springfield, Illinois 62707
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1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

1/5/2011

Attention: Compliance Assurance Section, Mail Code #19

Attached please find the bioassay report for Sugar Creek permit IL0021971 plant discharges for DECEMBER 2010. The tests were completed in accordance with permit special conditions. The results show no toxicity for plant effluent sample. This is the 12th month sample with one sample remaining.

If there are any questions about this report please contact Jeff Slead at the (217) 528-0491

Sincerely,

Jeff W. Slead
Operations Supervisor

BIOASSAY REPORT

ACUTE TOXICITY TESTS

Conducted December 15 through 19, 2010

**Prepared for
Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois**

Prepared by

S-F ANALYTICAL LABORATORIES

**Bioassay Laboratory
2345 South 170th Street
New Berlin, WI 53151**

Lab I.D. No. TL0444

December 2010 .

ATL0444

Summary

S-F Analytical Laboratories conducted acute toxicity tests on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays were conducted from December 15 through 19, 2010, as part of NPDES compliance monitoring for the State of Illinois. *Ceriodaphnia dubia* and fathead minnows were used as the test organisms. The following is a summary of the test results:

Test Media	<u>Acute Toxicity/Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	Pass	Pass
Sugar Creek Control	Pass	Pass
100% Effluent	Pass	Pass
LC ₅₀	>100%	>100%

For NPDES compliance purposes, the results of the tests show that:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Introduction

This report presents the results of the laboratory acute toxicity tests conducted by S-F Analytical Laboratories on an effluent sample provided by Springfield Metro Sanitary District - Sugar Creek Wastewater Treatment Plant, Springfield, Illinois. The bioassays used *Ceriodaphnia dubia* and fathead minnows as the test organisms and were performed from December 15 through 19, 2010, as part of NPDES compliance biomonitoring for the State of Illinois.

Methods

All laboratory methods, including organism culture, sample handling, test procedures, and data analyses, were in accordance with the recommendations of the U.S. Environmental Protection Agency (EPA) [1], the S-F Analytical Bioassay Laboratory Standard Operating Procedures, and the Illinois Environmental Protection Agency (IEPA) biomonitoring requirements as specified in the Springfield Metro Sanitary District-Sugar Creek Wastewater Treatment Plant NPDES permit.

Sample Collection and Handling

A photocopy of the chain-of-custody form is included in Appendix B. One 24-hour composite effluent sample and one receiving water grab sample were used as follows:

Description	Sample No.	Date Collected	Date Tested
Sugar Creek	TL0444.01	12/14/10	12/15-19/10
Effluent	TL0444.02	12/13-14/10	12/15-19/10

The samples were collected by Springfield Metro Sanitary District personnel and were shipped on ice to the S-F Analytical Bioassay Laboratory. Upon arrival, samples were logged in, physicochemical characterizations were conducted, and they were prepared for testing. Unused portions were refrigerated (4°C) for later use.

Test Organisms

All test organisms were cultured at the S-F Analytical Bioassay Laboratory. If necessary, fathead minnows were obtained from a commercial supplier (AquaTox, Inc., Hot Springs, Arkansas).

Test Procedures

Bioassays

Bioassay test conditions are summarized in Tables 1 and 2.

Physicochemical Monitoring

Total alkalinity, hardness, and total ammonia were measured initially on each sample. Total residual chlorine was measured initially on the effluent sample. Total alkalinity and hardness were measured once in the laboratory control.

Dissolved oxygen (DO), pH, and conductivity were measured initially and thereafter in all test solution renewals. DO and pH were measured in one test chamber or composite of each test solution after 48 and 96 hours.

Bioassay incubator temperature was electronically monitored hourly by thermocouple and data logger and a 24-hour summary of mean values was recorded.

Data Analysis

Pass/Fail criteria were applied to acute toxicity data. When appropriate an LC_{50} (median lethal concentration) was calculated using a computer program.

Acute toxicity was defined according to the following IEPA criteria:

- Less than 50 percent survival of test organisms in 100 percent effluent at test termination (48 hours for *Ceriodaphnia dubia*; 96 hours for fathead minnows). That is, the LC_{50} less than 100 percent for either species.

Quality Assurance

Part of the quality assurance and quality control (QA/QC) program at the S-F Analytical Bioassay Laboratory includes the performance of organisms concurrently tested in laboratory media. Tables 1 and 2 present the test acceptability criteria for laboratory control data. The results of the laboratory control tests are listed in Table 3.

In addition, other QA/QC procedures include performing monthly reference toxicant tests using reagent-grade sodium chloride. The results of reference toxicant tests conducted during the past 20 months on the appropriate test organisms are summarized in Appendix C.

Table 1
Summary of Test Conditions for the
***Ceriodaphnia* Acute Bioassay**
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
December 15 through 17, 2010

1.	Test organism	<i>Ceriodaphnia dubia</i> (Crustacea: Cladocera)
2.	Test type	Static nonrenewal
3.	Age of test organisms	Less than 24 hours
4.	Test chamber size	30 mL
5.	Test solution volume	25 mL
6.	Renewal of test solutions	None
7.	Number of replicate chambers per solution	4
8.	Number of test organisms per chamber	5
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	None
14.	Aeration	None
15.	Test duration	48 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between completion of collection and initial use for each sample. Laboratory water used was prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control.

Table 2
Summary of Test Conditions for the
Fathead Minnow Acute Bioassay
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
December 15 through 19, 2010

1.	Test organism	<i>Pimephales promelas</i> (Osteichthyes: Cyprinidae)
2.	Test type	Static renewal
3.	Age of test organisms	12 days old
4.	Test chamber size	500 mL
5.	Test solution volume	250 mL
6.	Renewal of test solutions	At 48 hours
7.	Number of replicate chambers per solution	2
8.	Number of test organisms per chamber	10
9.	Primary control/dilution water	Receiving water; Sugar Creek
10.	Internal control water	Moderately hard reconstituted laboratory medium
11.	Effluent concentrations	6.25, 12.5, 25, 50, and 100 %
12.	Temperature	20 ± 1°C
13.	Feeding regime	0.15 mL live brine shrimp per container at 48 hours, prior to solution renewal.
14.	Aeration	None, unless DO concentration falls below 40% saturation (then, continuous at a rate not exceeding 100 bubbles per minute)
15.	Test duration	96 hours
16.	Sampling scheme	One 24-hour composite effluent sample and one grab sample of receiving water. Maximum holding time of 36 hours between collection and initial test use for each sample. Laboratory water prepared as one batch.
17.	Effects measured/Endpoint	Survival/LC ₅₀
18.	Test acceptability	90% or greater mean survival in the laboratory or receiving water control

Results

Photocopies of laboratory data and computer printouts of the statistical analyses are found in Appendix A. There were no excursions from the protocols and all test conditions were within the limits required by the EPA. The results of the tests are summarized below.

Acute Bioassays

Table 3 presents the results of the acute bioassays. The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

No acute toxicity was demonstrated to fathead minnows in the 100 percent effluent concentration. The LC₅₀ analysis was not conducted, but the value would be greater than 100 percent.

Laboratory control and receiving water data were acceptable in both tests.

Table 3
Summary of Results of Acute Bioassays
Conducted for Springfield Metro Sanitary District
Sugar Creek Wastewater Treatment Plant
Springfield, Illinois
December 15 through 19, 2010

Test Media	<u>Mean Percent Survival</u>	
	<i>Ceriodaphnia dubia</i>	Fathead Minnow
Laboratory Control	100	100
Sugar Creek Control	100	100
6.25% Effluent	100	100
12.5% Effluent	100	100
25% Effluent	100	100
50% Effluent	100	95
100% Effluent	100	100
LC ₅₀	>100%	>100%

Physicochemical Data

All physicochemical parameters measured satisfied the bioassay requirements (see Appendix A).

Conclusions

The results of the laboratory bioassays conducted on the effluent sample collected by Springfield Metro Sanitary District personnel on December 14, 2010 for NPDES biomonitoring, show the following:

- The effluent sample was not acutely toxic to *Ceriodaphnia dubia* at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- The effluent sample was not acutely toxic to fathead minnows at the 100 percent concentration using the 50 percent lethality criteria. The LC₅₀ value was greater than 100 percent.
- Laboratory and receiving water data were acceptable in both bioassays.

Reference

1. U.S. EPA. 2002. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms* (Fifth Edition). EPA-821-R-02-012. U.S. EPA, Environmental Protection Agency, Office of Water, Washington, DC. 266 p.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 010 - Excess Flow
- b. Location Springfield 62702
(City or town, if applicable) (Zip Code)
Sangamon IL
(County) (State)
39° 47' 32" N 89° 34' 59" W
(Latitude) (Longitude)
- c. Distance from shore (if applicable) NA ft.
- d. Depth below surface (if applicable) NA ft.
- e. Average daily flow rate _____ mgd
- f. Does this outfall have either an intermittent or a periodic discharge? ☒ Yes _____ No (go to A.9.g.)
- If yes, provide the following information:
- Number of times per year discharge occurs: 57 (2010 data)
- Average duration of each discharge: Approx. 3 hours
- Average flow per discharge: 15.18 mgd
- Months in which discharge occurs: Any month during high flows
- g. Is outfall equipped with a diffuser? _____ Yes ☒ No

A.10. Description of Receiving Waters.

- a. Name of receiving water Sugar Creek
- b. Name of watershed (if known) South Fork of the Sangamon River
- United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): _____
- United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 07130007
- d. Critical low flow of receiving stream (if applicable):
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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A.11. Description of Treatment.

- a. What levels of treatment are provided? Check all that apply.

☒ Primary ☐ Secondary
☐ Advanced ☒ Other. Describe: Preliminary Treatment, Settling, Chlorination

- b. Indicate the following removal rates (as applicable):

Design BOD₅ removal or Design CBOD₅ removal 75.00 %
 Design SS removal 75.00 %
 Design P removal NA %
 Design N removal NA %
 Other NA %

- c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

If disinfection is by chlorination, is dechlorination used for this outfall?

☐ Yes ☒ No

- d. Does the treatment plant have post aeration?

☐ Yes ☒ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 010 - Excess Flow

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.10	s.u.			
pH (Maximum)	7.50	s.u.			
Flow Rate	36.24	MGD	13.10	MGD	57.00
Temperature (Winter)	NA				
Temperature (Summer)	NA				

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.

BIOCHEMICAL OXYGEN	BOD-5							
DEMAND (Report one)	CBOD-5	185.00	mg/l	32.00	mg/l	57.00	5210-B	<1 mg/l
FECAL COLIFORM		20,000.00	col/100ml	384.00	col/100ml	57.00	9222-D	<1 colony
TOTAL SUSPENDED SOLIDS (TSS)		82.00	mg/l	22.00	mg/l	57.00	2240-D	<1 mg/l

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

_____ gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

N/A - Combined Sewer System

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ☐ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

- Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

☐ Yes ☐ No

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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- c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

- d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule	Actual Completion
	MM / DD / YYYY	MM / DD / YYYY
- Begin construction	___/___/___	___/___/___
- End construction	___/___/___	___/___/___
- Begin discharge	___/___/___	___/___/___
- Attain operational level	___/___/___	___/___/___

- e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☐ No

Describe briefly: _____

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: _____

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	11.40	mg/l	2.75	mg/l	57.00	4500NH3-F	<0.01 mg/l
CHLORINE (TOTAL RESIDUAL, TRC)	2.00	mg/l	0.20	mg/l	57.00	Hach	0.10 mg/l
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 010 -Excess Flow (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY											
ARSENIC	This outfall is excess flow and is not sampled for these parameters										
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS CaCO ₃)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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Outfall number: 010 -Excess Fl (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE	This outfall is excess flow and is not sampled for these parameters										
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYL VINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 010 -Excess FI (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLOROETHYLENE											
VINYL CHLORIDE											

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

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ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL											
2-CHLOROPHENOL	This outfall is excess flow and is not sampled for these parameters										
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--

BASE-NEUTRAL COMPOUNDS.

ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086Outfall number: 010 -Excess Flo (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GH)PERYLENE											
BENZO(K)FLUORANTHENE	This outfall is excess flow and is not sampled for these parameters										
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											
1,2-DIPHENYLHYDRAZINE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086Outfall number: 010 -Excess Flo (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE	This outfall is excess flow and is not sampled for these parameters										
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 011 - High Flow Bypass
- b. Location Springfield 62702
(City or town, if applicable) (Zip Code)
Sangamon IL
(County) (State)
39° 47' 37" N 89° 34' 57" W
(Latitude) (Longitude)
- c. Distance from shore (if applicable) NA ft.
- d. Depth below surface (if applicable) NA ft.
- e. Average daily flow rate _____ mgd
- f. Does this outfall have either an intermittent or a periodic discharge? ✓ Yes _____ No (go to A.9.g.)
- If yes, provide the following information:
- Number of times per year discharge occurs: 22 (2010 data)
- Average duration of each discharge: 4.33 hours
- Average flow per discharge: 1.12 mgd
- Months in which discharge occurs: Any month during high flows
- g. Is outfall equipped with a diffuser? _____ Yes ✓ No

A.10. Description of Receiving Waters.

- a. Name of receiving water Sugar Creek
- b. Name of watershed (if known) South Fork of the Sangamon River
- United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): _____
- United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 07130007
- d. Critical low flow of receiving stream (if applicable):
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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A.11. Description of Treatment.

- a. What levels of treatment are provided? Check all that apply.

☐ Primary☐ Secondary☐ Advanced☒ Other.

Describe:

Bypass. No treatment available

- b. Indicate the following removal rates (as applicable):

Design BOD₅ removal or Design CBOD₅ removal

%

Design SS removal

%

Design P removal

NA

%

Design N removal

NA

%

Other

NA

%

- c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

If disinfection is by chlorination, is dechlorination used for this outfall?

☐ Yes☒

No

- d. Does the treatment plant have post aeration?

☐ Yes☒

No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 011 - High Flow Bypass

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)		S.U.			
pH (Maximum)		S.U.			
Flow Rate					
Temperature (Winter)	NA				
Temperature (Summer)	NA				

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5						
	CBOD-5						
FECAL COLIFORM							
TOTAL SUSPENDED SOLIDS (TSS)							

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.
_____ gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

N/A - Combined Sewer System

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

- b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____ Yes ____ No

FACILITY NAME AND PERMIT NUMBER:

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- c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

- d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule	Actual Completion
	MM / DD / YYYY	MM / DD / YYYY
- Begin construction	___/___/___	___/___/___
- End construction	___/___/___	___/___/___
- Begin discharge	___/___/___	___/___/___
- Attain operational level	___/___/___	___/___/___

- e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☐ No

Describe briefly:

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 011 No samples taken

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)							
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 011 - Bypass (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY											
ARSENIC	This outfall is excess flow and is not sampled for these parameters										
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS CaCO ₃)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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Outfall number: 011 - Bypass (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE	This outfall is excess flow and is not sampled for these parameters										
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYL VINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086Outfall number: 011 - Bypass (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL	This outfall is excess flow and is not sampled for these parameters										
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086Outfall number: 011 - Bypass (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GH)PERYLENE											
BENZO(K)FLUORANTHENE	This outfall is excess flow and is not sampled for these parameters										
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											
1,2-DIPHENYLHYDRAZINE											

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086Outfall number: 011 - Bypass (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE	This outfall is excess flow and is not sampled for these parameters										
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

END OF PART D.**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. **Pretreatment Program.** Does the treatment works have, or is it subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. **Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs).** Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1.00
b. Number of CIUs. 1.00

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. **Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Aramark Services, Inc.

Mailing Address: 4800 Industrial Drive, P.O. Box 3206
Springfield IL 62708

F.4. **Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Industrial Laundry - Wet wash only

F.5. **Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): laundry wash water

Raw material(s): Soap and conditioners

F.6. **Flow Rate.**

a. **Process wastewater flow rate.** Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

80,000.00 gpd (☐ continuous or ☒ intermittent)

b. **Non-process wastewater flow rate.** Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

4,000.00 gpd (☐ continuous or ☒ intermittent)

F.7. **Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local limits ☒ Yes ☐ No

b. Categorical pretreatment standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

None

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1.00
b. Number of CIUs. 1.00

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Contech Construction Products, Inc.

Mailing Address: 1110 Stevenson Drive
Springfield, IL 62703

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Washwater from extruded PVC pipe manufacturing.

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Extruded PVC pipe

Raw material(s): PVC resin

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

200.00 gpd (☐ continuous or ☒ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

500.00 gpd (☐ continuous or ☒ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ☒ Yes ☐ No

b. Categorical pretreatment standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

40 CFR 463 plastic forming

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
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SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

- All CSO discharge points.
- Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
- Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

- Locations of major sewer trunk lines, both combined and separate sanitary.
- Locations of points where separate sanitary sewers feed into the combined sewer system.
- Locations of in-line and off-line storage structures.
- Locations of flow-regulating devices.
- Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

- Outfall number 009 - Harvard Park CSO
- Location Springfield 62707
(City or town, if applicable) (Zip Code)
Sangamon IL
(County) (State)
39° 46' 25" N 89° 37' 41" W
(Latitude) (Longitude)
- Distance from shore (if applicable) _____ ft.
- Depth below surface (if applicable) _____ ft.
- Which of the following were monitored during the last year for this CSO?
☒ Rainfall ☐ CSO pollutant concentrations ☒ CSO frequency
☒ CSO flow volume ☐ Receiving water quality
- How many storm events were monitored during the last year? 28.00

G.4. CSO Events.

- Give the number of CSO events in the last year.
28.00 events (☒ actual or ☐ approx.)
- Give the average duration per CSO event.
4.33 hours (☐ actual or ☒ approx.)

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- c. Give the average volume per CSO event.
1.44 million gallons (actual or ☒ approx.)
- d. Give the minimum rainfall that caused a CSO event in the last year.
0.06 inches of rainfall

a. Name of receiving water: unnamed tributary to Sugar Creek

b. Name of watershed/river/stream system: South Fork of the Sangamon River

United States Soil Conservation Service 14-digit watershed code (if known): _____

- c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 07130007

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

None. The Sanitary District is in the process of developing a LTCP for this discharge.

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

FACILITY NAME AND PERMIT NUMBER:

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FORM
2S
NPDES

NPDES FORM 2S APPLICATION OVERVIEW

PRELIMINARY INFORMATION

This page is designed to indicate whether the applicant is to complete Part 1 or Part 2. Review each category, and then complete Part 1 or Part 2, as indicated. For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

FACILITIES INCLUDED IN ANY OF THE FOLLOWING CATEGORIES MUST COMPLETE PART 2 (PERMIT APPLICATION INFORMATION).

1. Facilities with a currently effective NPDES permit.
2. Facilities which have been directed by the permitting authority to submit a full permit application at this time.

ALL OTHER FACILITIES MUST COMPLETE PART 1 (LIMITED BACKGROUND INFORMATION).

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PART 1: LIMITED BACKGROUND INFORMATION

This part should be completed only by "sludge-only" facilities - that is, facilities that do not currently have, and are not applying for, an NPDES permit for a direct discharge to a surface body of water.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

1. Facility Information.

- a. Facility name _____
- b. Mailing Address _____

- c. Contact person _____
Title _____
Telephone number _____
- d. Facility Address (not P.O. Box) _____

- e. Indicate the type of facility
- | | |
|---|---------------------------------------|
| _____ Publicly owned treatment works (POTW) | _____ Privately owned treatment works |
| _____ Federally owned treatment works | _____ Blending or treatment operation |
| _____ Surface disposal site | _____ Sewage sludge incinerator |
| _____ Other (describe) _____ | |

2. Applicant Information.

- a. Applicant name _____
- b. Mailing Address _____

- c. Contact person _____
Title _____
Telephone number _____
- d. Is the applicant the owner or operator (or both) of this facility?
_____ owner _____ operator
- e. Should correspondence regarding this permit be directed to the facility or the applicant?
_____ facility _____ applicant

FACILITY NAME AND PERMIT NUMBER:
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3. Sewage Sludge Amount. Provide the total dry metric tons per latest 365 day period of sewage sludge handled under the following practices:

- a. Amount generated at the facility _____ dry metric tons
 - b. Amount received from off site _____ dry metric tons
 - c. Amount treated or blended on site _____ dry metric tons
 - d. Amount sold or given away in a bag or other container for application to the land _____ dry metric tons
 - e. Amount of bulk sewage sludge shipped off site for treatment or blending _____ dry metric tons
 - f. Amount applied to the land in bulk form _____ dry metric tons
 - g. Amount placed on a surface disposal site _____ dry metric tons
 - h. Amount fired in a sewage sludge incinerator _____ dry metric tons
 - i. Amount sent to a municipal solid waste landfill _____ dry metric tons
 - j. Amount used or disposed by another practice _____ dry metric tons
- Describe _____

4. Pollutant Concentrations. Using the table below or a separate attachment, provide existing sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for this facility's expected use or disposal practices. If available, base data on three or more samples taken at least one month apart and no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM			
CHROMIUM			
COPPER			
LEAD			
MERCURY			
MOLYBDENUM			
NICKEL			
SELENIUM			
ZINC			

5. Treatment Provided At Your Facility.

- a. Which class of pathogen reduction does the sewage sludge meet at your facility?
 _____ Class A _____ Class B _____ Neither or unknown
- b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

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c. Which vector attraction reduction option is met for the sewage sludge at your facility?

- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
☐ Option 2 (Anaerobic process, with bench-scale demonstration)
☐ Option 3 (Aerobic process, with bench-scale demonstration)
☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
☐ Option 5 (Aerobic processes plus raised temperature)
☐ Option 6 (Raise pH to 12 and retain at 11.5)
☐ Option 7 (75 percent solids with no unstabilized solids)
☐ Option 8 (90 percent solids with unstabilized solids)
☐ Option 9 (Injection below land surface)
☐ Option 10 (Incorporation into soil within 6 hours)
☐ Option 11 (Covering active sewage sludge unit daily)
☐ None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

6. **Sewage Sludge Sent to Other Facilities.** Does the sewage sludge from your facility meet the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of the vector attraction options 1-8?

☐ Yes ☐ No

If yes, go to question 8 (Certification).

If no, is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal?

☐ Yes ☐ No

If no, go to question 7 (Use and Disposal Sites).

If yes, provide the following information for the facility receiving the sewage sludge:

a. Facility name _____

b. Mailing address _____

c. Contact person _____

Title _____

Telephone number _____

d. Which activities does the receiving facility provide? (Check all that apply)

☐ Treatment or blending ☐ Sale or give-away in bag or other container

☐ Land application ☐ Surface disposal

☐ Incineration ☐ Other (describe):

FACILITY NAME AND PERMIT NUMBER:
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7. Use and Disposal Sites. Provide the following information for each site on which sewage sludge from this facility is used or disposed:

- a. Site name or number _____
- b. Contact person _____
Title _____
Telephone _____
- c. Site location (Complete 1 or 2)
1. Street or Route # _____
County _____
City or Town _____ State _____ Zip _____
2. Latitude _____ Longitude _____
- d. Site type (Check all that apply)
- | | | |
|---|---|--|
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Lawn or home garden | <input type="checkbox"/> Forest |
| <input type="checkbox"/> Surface disposal | <input type="checkbox"/> Public Contact | <input type="checkbox"/> Incineration |
| <input type="checkbox"/> Reclamation | <input type="checkbox"/> Municipal Solid Waste Landfill | <input type="checkbox"/> Other (describe): _____ |

8. Certification. Sign the certification statement below. (Refer to instructions to determine who is an officer for purposes of this certification.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title _____
Signature _____
Telephone number _____
Date signed _____

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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PART 2: PERMIT APPLICATION INFORMATION

Complete this part if you have an effective NPDES permit or have been directed by the permitting authority to submit a full permit application at this time. In other words, complete this part if your facility has, or is applying for, an NPDES permit.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

APPLICATION OVERVIEW — SEWAGE SLUDGE USE OR DISPOSAL INFORMATION

Part 2 is divided into five sections (A-E). Section A pertains to all applicants. The applicability of Sections B, C, D, and E depends on your facility's sewage sludge use or disposal practices. The information provided on this page indicates which sections of Part 2 to fill out.

1. SECTION A: GENERAL INFORMATION.

Section A must be completed by all applicants

2. SECTION B: GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE.

Section B must be completed by applicants who either:

- 1) Generate sewage sludge, or
- 2) Derive a material from sewage sludge.

3. SECTION C: LAND APPLICATION OF BULK SEWAGE SLUDGE.

Section C must be completed by applicants who either:

- 1) Apply sewage to the land, or
- 2) Generate sewage sludge which is applied to the land by others.

NOTE: Applicants who meet either or both of the two above criteria are exempted from this requirement if all sewage sludge from their facility falls into one of the following three categories:

- 1) The sewage sludge from this facility meets the ceiling and pollutant concentrations, Class A pathogen reduction requirements, and one of vector attraction reduction options 1-8, as identified in the instructions, or
- 2) The sewage sludge from this facility is placed in a bag or other container for sale or give-away for application to the land, or
- 3) The sewage sludge from this facility is sent to another facility for treatment or blending.

4. SECTION D: SURFACE DISPOSAL

Section D must be completed by applicants who own or operate a surface disposal site.

5. SECTION E: INCINERATION

Section E must be completed by applicants who own or operate a sewage sludge incinerator.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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OMB Number 2040-0086**A. GENERAL INFORMATION****All applicants must complete this section.****A.1. Facility Information.**

- a. Facility name Sugar Creek WWTP
- b. Mailing Address 3000 North Eighth Street
Springfield, IL 62707
- c. Contact person Jeff W. Slead
Title Operations Supervisor
Telephone number (217) 528-0491
- d. Facility Address (not P.O. Box) 3300 Mechanisburg Road
Springfield, IL 62707
- e. Is this facility a Class I sludge management facility? ☐ Yes ☒ No
- f. Facility design flow rate: 10.00 mgd
- g. Total population served: 41,000.00
- h. Indicate the type of facility:
- | | |
|---|--|
| <input checked="" type="checkbox"/> Publicly owned treatment works (POTW) | <input type="checkbox"/> Privately owned treatment works |
| <input type="checkbox"/> Federally owned treatment works | <input type="checkbox"/> Blending or treatment operation |
| <input type="checkbox"/> Surface disposal site | <input type="checkbox"/> Sewage sludge incinerator |
| <input type="checkbox"/> Other (describe) _____ | |

A.2. Applicant Information. If the applicant is different from the above, provide the following:

- a. Applicant name _____
- b. Mailing Address _____

- c. Contact person _____
Title _____
Telephone number _____
- d. Is the applicant the owner or operator (or both) of this facility?
☒ owner ☒ operator
- e. Should correspondence regarding this permit should be directed to the facility or the applicant.
☒ facility ☐ applicant

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A.3. Permit Information.

- a. Facility's NPDES permit number (if applicable): IL-0021971
- b. List, on this form or an attachment, all other Federal, State, and local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number	Type of Permit
2006-SC-2668	Surface Disposal

- A.4. Indian Country.** Does any generation, treatment, storage, application to land, or disposal of sewage sludge from this facility occur in Indian Country?
- Yes ☒ No ☐ If yes, describe: _____

- A.5. Topographic Map.** Provide a topographic map or maps (or other appropriate map(s) if a topographic map is unavailable) that show the following information. Map(s) should include the area one mile beyond all property boundaries of the facility:

- a. Location of all sewage sludge management facilities, including locations where sewage sludge is stored, treated, or disposed.
- b. Location of all wells, springs, and other surface water bodies, listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundaries.

- A.6. Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit, including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

Refer to Overall Process Flow Diagram included in Part 2A

A.7. Contractor Information.

Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? Yes ☒ No

If yes, provide the following for each contractor (attach additional pages if necessary):

- a. Name _____
- b. Mailing Address _____

- c. Telephone Number _____
- d. Responsibilities of contractor _____

FACILITY NAME AND PERMIT NUMBER:

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A.8. Pollution Concentrations: Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR Part 503 for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC	2.70	3113B	<1 mg/kg
CADMIUM	0.50	3113B	<0.2 mg/kg
CHROMIUM	21.00	3113B	<1 mg/kg
COPPER	353.00	3113B	<5mg/kg
LEAD	151.00	3113B	<1 mg/kg
MERCURY	0.47	3112B	<0.2 mg/kg
MOLYBDENUM	10.00	3113B	<1 mg/kg
NICKEL	28.00	3111B	<0.5 mg/kg
SELENIUM	15.00	3113B	<0.2 mg/kg
ZINC	428.00	3111B	<2 mg/kg

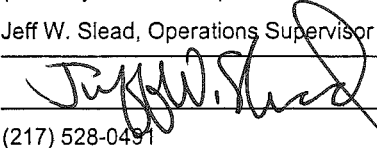
A.9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of Form 2S you have completed and are submitting:

_____ Part 1 Limited Background Information packet

Part 2 Permit Application Information packet:

- ☒ Section A (General Information)
☒ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
_____ Section C (Land Application of Bulk Sewage Sludge)
☒ Section D (Surface Disposal)
_____ Section E (Incineration)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Jeff W. Sleed, Operations Supervisor
Signature  Date signed 10/23/13
Telephone number (217) 528-0491

Upon request of the permitting authority, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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OMB Number 2040-0086**B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE**

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge.

B.1. Amount Generated On Site.Total dry metric tons per 365-day period generated at your facility: 834.00 dry metric tons

B.2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use, or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

- a. Facility name _____
- b. Mailing Address _____

- c. Contact person _____
Title _____
Telephone number _____
- d. Facility Address (not P.O. Box) _____

- e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
- f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics.

B.3. Treatment Provided At Your Facility.

- a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
_____ Class A ☒ Class B _____ Neither or unknown
- b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:
Alternate #2 - #5 Lime is added to raise pH to 12 for 2 hour contact time.

- c. Which vector attraction reduction option is met for the sewage sludge at your facility?
_____ Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
☒ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
_____ Option 8 (90 percent solids with unstabilized solids)
_____ None or unknown

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- d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

Aerobic sludge digestion and lime stabilization - Option 6

- e. Describe, on this form or another sheet of paper, any other sewage sludge treatment or blending activities not identified in (a) - (d) above:

Complete Section B.4 if sewage sludge from your facility meets the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of §503.13, the Class A pathogen reduction requirements in §503.32(a), and one of the vector attraction reduction requirements in § 503.33(b)(1)-(8) and is land applied. Skip this section if sewage sludge from your facility does not meet all of these criteria.

B.4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements, and One of Vector Attraction Reduction Options 1-8.

- a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: _____ dry metric tons
- b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away for application to the land?

_____ Yes _____ No

Complete Section B.5. if you place sewage sludge in a bag or other container for sale or give-away for land application. Skip this section if the sewage sludge is covered in Section B.4.

B.5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

- a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ 0.00 dry metric tons
- b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

Complete Section B.6 if sewage sludge from your facility is provided to another facility that provides treatment or blending. This section does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this section if the sewage sludge is covered in Sections B.4 or B.5. If you provide sewage sludge to more than one facility, attach additional pages as necessary.

B.6. Shipment Off Site for Treatment or Blending.

- a. Receiving facility name _____
- b. Mailing address _____

- c. Contact person _____
Title _____
Telephone number _____
- d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: _____

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B.6. Shipment Off Site for Treatment or Blending. (con't)

- e. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? ☐ Yes ☐ No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

☐ Class A ☐ Class B ☐ Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

- f. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge?
☐ Yes ☐ No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
☐ Option 2 (Anaerobic process, with bench-scale demonstration)
☐ Option 3 (Aerobic process, with bench-scale demonstration)
☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
☐ Option 5 (Aerobic processes plus raised temperature)
☐ Option 6 (Raise pH to 12 and retain at 11.5)
☐ Option 7 (75 percent solids with no unstabilized solids)
☐ Option 8 (90 percent solids with unstabilized solids)
☐ None

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge.

- g. Does the receiving facility provide any additional treatment or blending activities not identified in (c) or (d) above? ☐ Yes ☐ No

If yes, describe, on this form or another sheet of paper, the treatment or blending activities not identified in (c) or (d) above:

- h. If you answered yes to (e), (f), or (g), attach a copy of any information you provide the receiving facility to comply with the "notice and necessary information" requirement of 40 CFR 503.12(g).

- i. Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ☐ Yes ☐ No

If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

Complete Section B.7 if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in:

- Section B.4 (it meets Table 1 ceiling concentrations, Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8); or
- Section B.5 (you place it in a bag or other container for sale or give-away for application to the land); or
- Section B.6 (you send it to another facility for treatment or blending).

B.7. Land Application of Bulk Sewage Sludge.

- a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: _____ dry metric tons

FACILITY NAME AND PERMIT NUMBER:

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- b. Do you identify all land application sites in Section C of this application? ☐ Yes ☐ No

If no, submit a copy of the land application plan with application (see instructions).

- c. Are any land application sites located in States other than the State where you generate sewage sludge or derive a material from sewage sludge? ☐ Yes ☐ No

If yes, describe, on this form or another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

Complete Section B.8 if sewage sludge from your facility is placed on a surface disposal site.**B.8. Surface Disposal.**

- a. Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: 834.00 dry metric tons

- b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?

☒ Yes ☐ No

If no, answer B.8.c through B.8.f for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one such surface disposal site, attach additional pages as necessary.

- c. Site name or number _____

- d. Contact person _____

Title _____

Telephone number _____

Contact is ☐ Site owner ☐ Site operator

- e. Mailing address _____

- f. Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period: _____ dry metric tons

Complete Section B.9 if sewage sludge from your facility is fired in a sewage sludge incinerator.**B.9. Incineration.**

- a. Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: _____ dry metric tons

- b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? ☐ Yes ☐ No

If no, complete B.9.c through B.9.f for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one such sewage sludge incinerator, attach additional pages as necessary.

- c. Incinerator name or number: _____

- d. Contact person: _____

Title: _____

Telephone number: _____

Contact is: ☐ Incinerator owner ☐ Incinerator operator

FACILITY NAME AND PERMIT NUMBER:

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f. Total dry metric tons of sewage sludge from your facility fired in this sewage sludge incinerator per 365-day period: _____ dry metric tons

Complete Section B.10 if sewage sludge from this facility is placed on a municipal solid waste landfill.

B.10. Disposal in a Municipal Solid Waste Landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.

a. Name of landfill _____

b. Contact person _____

Title _____

Telephone number _____

Contact is _____ Landfill owner _____ Landfill operator

c. Mailing address _____

d. Location of municipal solid waste landfill:

Street or Route # _____

County _____

City or Town _____ State _____ Zip _____

e. Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period:

_____ dry metric tons

f. List, on this form or an attachment, the numbers of all other Federal, State, and local permits that regulate the operation of this municipal solid waste landfill.

Permit Number

Type of Permit

g. Submit, with this application, information to determine whether the sewage sludge meets applicable requirements for disposal of sewage sludge in a municipal solid waste landfill (e.g., results of paint filter liquids test and TCLP test)

h. Does the municipal solid waste landfill comply with applicable criteria set forth in 40 CFR Part 258?

_____ Yes _____ No

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086

C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete Section C for sewage sludge that is applied to the land, unless any of the following conditions apply:

- The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8 (fill out B.4 Instead); or
- The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 Instead); or
- You provide the sewage sludge to another facility for treatment or blending (fill out B.6 Instead).

Complete Section C for every site on which the sewage sludge that you reported in Section B.7 is applied.

C.1. Identification of Land Application Site.

- a. Site name or number _____
- b. Site location (Complete 1 and 2).
1. Street or Route # _____
- County _____
- City or Town _____ State _____ Zip _____
2. Latitude _____ Longitude _____
- Method of latitude/longitude determination
- _____ USGS map _____ Field survey _____ Other _____
- c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

C.2. Owner Information.

- a. Are you the owner of this land application site? _____ Yes _____ No
- b. If no, provide the following information about the owner:

Name _____

Telephone number _____

Mailing Address _____

C.3. Applier Information.

- a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?
_____ Yes _____ No
- b. If no, provide the following information for the person who applies:

Name _____

Telephone number _____

Mailing Address _____

C.4. Site Type: Identify the type of land application site from among the following.

_____ Agricultural land _____ Forest _____ Public contact site
_____ Reclamation site _____ Other. Describe: _____

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C.5. Crop or Other Vegetation Grown on Site.

- a. What type of crop or other vegetation is grown on this site?

- b. What is the nitrogen requirement for this crop or vegetation?

C.6. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

_____ Yes _____ No

If yes, answer C.6.a and C.6.b:

- a. Indicate which vector attraction reduction option is met:

_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

- b. Describe, on this form or another sheet of paper, any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge:

Complete Question C.7 only if the sewage sludge applied to this site since July 20, 1993, is subject to the cumulative pollutant loading rates (CPLRs) in 40 CFR 503.13(b)(2).

C.7. Cumulative Loadings and Remaining Allotments.

- a. Have you contacted the permitting authority in the State where the bulk sewage sludge subject to CPLRs will be applied, to ascertain whether bulk sewage sludge subject to CPLRs has been applied to this site on or since July 20, 1993? _____ Yes _____ No

If no, sewage sludge subject to CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority _____

Contact Person _____

Telephone number _____

- b. Based upon this inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?

_____ Yes _____ No

If no, skip C.7.c.

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- c. Provide the following information for every facility other than yours that is sending, or has sent, bulk sewage sludge to CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name

Mailing Address

Contact person

Title

Telephone number

FACILITY NAME AND PERMIT NUMBER:

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D. SURFACE DISPOSAL

Complete this section if you own or operate a surface disposal site.

Complete Sections D.1 - D.5 for each active sewage sludge unit.

D.1. Information on Active Sewage Sludge Units.

- a. Unit name or number: Sugar Creek WWTP Sludge Disposal Area
- b. Unit location (Complete 1 and 2).
1. Street or Route # 3300 mechanicsburg Road
County Sangamon
City or Town Springfield State IL Zip 62707
2. Latitude 39° 47' 51"N Longitude 89° 35' 16"W
Method of latitude/longitude determination: ☒ USGS map ☐ Field survey ☐ Other
- c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
- d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: 834.00 dry metric tons
- e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: 41,000.00 dry metric tons
- f. Does the active sewage sludge unit have a liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec? ☐ Yes ☒ No
If yes, describe the liner (or attach a description):

- g. Does the active sewage sludge unit have a leachate collection system? ☒ Yes ☐ No

If yes, describe the leachate collection system (or attach a description). Also describe the method used for leachate disposal and provide the numbers of any Federal, State, or local permit(s) for leachate disposal:

Underdrain system covers entire 30 acres of disposal site to collect drainage which is pumped back to aeration system for treatment.

- h. If you answered no to either D.1.f. or D.1.g., answer the following question:

Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site?
☒ Yes ☐ No

If yes, provide the actual distance in meters: 150.00

Provide the following information:

Remaining capacity of active sewage sludge unit, in dry metric tons: _____ dry metric tons

Anticipated closure date for active sewage sludge unit, if known: _____ (MM/DD/YYYY)

Provide, with this application, a copy of any closure plan that has been developed for this active sewage sludge unit.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**D.2. Sewage Sludge from Other Facilities.** Is sewage sent to this active sewage sludge unit from any facilities other than your facility?☐ Yes ☒ No

If yes, provide the following information for each such facility. If sewage sludge is sent to this active sewage sludge unit from more than one such facility, attach additional pages as necessary.

a. Facility name _____

b. Mailing Address _____

c. Contact person _____

Title _____

Telephone number _____

d. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?

☐ Class A ☐ Class B ☐ None or unknown

e. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

f. Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
☐ Option 2 (Anaerobic process, with bench-scale demonstration)
☐ Option 3 (Aerobic process, with bench-scale demonstration)
☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
☐ Option 5 (Aerobic processes plus raised temperature)
☐ Option 6 (Raise pH to 12 and retain at 11.5)
☐ Option 7 (75 percent solids with no unstabilized solids)
☐ Option 8 (90 percent solids with unstabilized solids)
☐ None or unknown

g. Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge

h. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in (d) - (g) above:

_____**D.3. Vector Attraction Reduction**

a. Which vector attraction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?

- ☐ Option 9 (Injection below and surface)
☐ Option 10 (Incorporation into soil within 6 hours)
☐ Option 11 (Covering active sewage sludge unit daily)

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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OMB Number 2040-0086**D.3. Vector Attraction Reduction. (con't)**

- b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

Option #6. Raise pH to 12.0 for 2 hours and retain at pH = 11.5 for 22 hours

D.4. Ground-Water Monitoring.

- a. Is ground-water monitoring currently conducted at this active sewage sludge unit, or are ground-water monitoring data otherwise available for this active sewage sludge unit?

☒ Yes ☐ No

If yes, provide a copy of available ground-water monitoring data. Also, provide a written description of the well locations, the approximate depth to ground-water, and the ground-water monitoring procedures used to obtain these data.

Map is provided showing well locations. Sampled quarterly. See attached ground water analysis

- b. Has a ground-water monitoring program been prepared for this active sewage sludge unit? ☒ Yes ☐ No

If yes, submit a copy of the ground-water monitoring program with this permit application.

- c. Have you obtained a certification from a qualified ground-water scientist that the aquifer below the active sewage sludge unit has not been contaminated? ☒ Yes ☐ No

If yes, submit a copy of the certification with this permit application.

D.5. Site-Specific Limits. Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?

☐ Yes ☒ No

If yes, submit information to support the request for site-specific pollutant limits with this application.

FACILITY NAME AND PERMIT NUMBER:

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Form Approved 1/14/99
OMB Number 2040-0086**E. INCINERATION****Complete this section if you fire sewage sludge in a sewage sludge incinerator.****Complete this section once for each incinerator in which you fire sewage sludge. If you fire sewage sludge in more than one sewage sludge incinerator, attach additional copies of this section s necessary.****E.1. Incinerator Information.**

- a. Incinerator name or number: N/A
- b. Incinerator location (Complete 1 and 2).
1. Street or Route # _____
- County _____
- City or Town _____ State _____ Zip _____
2. Latitude _____ Longitude _____
- Method of latitude/longitude determination: _____ USGS map _____ Field survey _____ Other _____

E.2. Amount Fired. Dry metric tons per 365-day period of sewage sludge fired in the sewage sludge incinerator: _____ dry metric tons**E.3. Beryllium NESHAP.**

- a. Is the sewage sludge fired in this incinerator "beryllium-containing waste," as defined in 40 CFR Part 61.31? _____ Yes _____ No
- Submit, with this application, information, test data, and description of measures taken that demonstrate whether the sewage sludge incinerated is beryllium-containing waste, and will continue to remain as such.
- b. If the answer to (a) is yes, submit with this application a complete report of the latest beryllium emission rate testing and documentation of ongoing incinerator operating parameters indicating that the NESHAP emission rate limit for beryllium has been and will continue to be met.

E.4. Mercury NESHAP.

- a. How is compliance with the mercury NESHAP being demonstrated?
- _____ Stack testing (if checked, complete E.4.b)
- _____ Sewage sludge sampling (if checked, complete E.4.c)
- b. If stack testing is conducted, submit the following information with this application:
- A complete report of stack testing and documentation of ongoing incinerator operating parameters indicating that the incinerator has met, and will continue to meet, the mercury NESHAP emission rate limit.
- Copies of mercury emission rate tests for the two most recent years in which testing was conducted.
- c. If sewage sludge sampling is used to demonstrate compliance, submit a complete report of sewage sludge sampling and documentation of ongoing incinerator operating parameters indicating that the incinerator has met, and will continue to meet the mercury NESHAP emission rate limit.

E.5. Dispersion Factor.

- a. Dispersion factor, in micrograms/cubic meter per gram/second: _____
- b. Name and type of dispersion model: _____
- c. Submit a copy of the modeling results and supporting documentation with this application.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

Form Approved 1/14/99
OMB Number 2040-0086**E.6. Control Efficiency.**

- a. Control efficiency, in hundredths, for the following pollutants:

Arsenic: _____ Chromium: _____ Nickel: _____

Cadmium: _____ Lead: _____

- b. Submit a copy of the results or performance testing and supporting documentation (including testing dates) with this application.

E.7. Risk Specific Concentration for Chromium.

- a. Risk specific concentration (RSC) used for chromium, in micrograms per cubic meter: _____

- b. Which basis was used to determine the RSC?

_____ Table 2 in 40 CFR 503.43

_____ Equation 6 in 40 CFR 503.43 (site-specific determination)

- c. If Table 2 was used, identify the type of incinerator used as the basis:

_____ Fluidized bed with wet scrubber

_____ Fluidized bed with wet scrubber and wet electrostatic precipitator

_____ Other types with wet scrubber

_____ Other types with wet scrubber and wet electrostatic precipitator

- d. If Equation 6 was used, provide the following:

Decimal fraction of hexavalent chromium concentration to total chromium concentration in stack exit gas: _____

Submit results of incinerator stack tests for hexavalent and total chromium concentrations, including date(s) of test, with this application.

E.8. Incinerator Parameters

- a. Do you monitor Total Hydrocarbons (THC) in the sewage sludge incinerator's exit gas? _____ Yes _____ No

Do you monitor Carbon Monoxide (CO) in the sewage sludge incinerator's exit gas? _____ Yes _____ No

- b. Incinerator type: _____

- c. Incinerator stack height, in meters: _____

Indicate whether value submitted is: _____ Actual stack height _____ Creditable stack height

E.9. Performance Test Operating Parameters

- a. Maximum Performance Test Combustion Temperature: _____

- b. Performance test sewage sludge feed rate, in dry metric tons/day: _____

indicate whether value submitted is:

_____ Average use _____ Maximum design

Submit, with this application, supporting documents describing how the feed rate was calculated.

- c. Submit, with this application, information documenting the performance test operating parameters for the air pollution control device(s) used for this sewage sludge incinerator.

FACILITY NAME AND PERMIT NUMBER:

Sugar Creek WWTP IL0021971

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E.10. Monitoring Equipment. List the equipment in place to monitor the following parameters:

- a. Total hydrocarbons or carbon monoxide: _____
- b. Percent oxygen: _____
- c. Moisture content: _____
- d. Combustion temperature: _____
- e. Other: _____

E.11. Air Pollution Control Equipment. Submit, with this application, a list of all air pollution control equipment used with this sewage sludge incinerator.



CRAWFORD, MURPHY & TILLY, INC.
CONSULTING ENGINEERS
2750 WEST WASHINGTON STREET
SPRINGFIELD, ILLINOIS 62702
(217) 787-8050

July 12, 1993

Mr. Rick Cobb
Hydrogeology Section
Public Water Supply Division
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Cobb:

RE: 93030-02-01
Springfield Metropolitan Sanitary District
Class II Groundwater Classification Request

By submission of this report, Crawford, Murphy & Tilly, Inc. is requesting on behalf of the Springfield Metropolitan Sanitary District, that groundwater beneath the Spring and Sugar Creek Sludge Application Farms be classified as Class II according to the provisions of 35 I.A.C. section 620.220.

In support of this request, the attached report details the information gathered during a hydrogeologic study of the subject sites.

If you have any further questions or require additional information, please contact me at your earliest convenience.

Very truly yours,

CRAWFORD, MURPHY & TILLY, INC.

Allen O. Oertel
Hydrogeologist

cm
encl.

SPRINGFIELD, ILLINOIS
ST. LOUIS, MISSOURI
AURORA, ILLINOIS

SPRINGFIELD METRO SANITARY DISTRICT

PROPOSED

GROUNDWATER MONITORING PROGRAM

FOR COMPLIANCE WITH

40 CFR PART 503 - SLUDGE MANAGEMENT REGULATIONS

Prepared By:

CRAWFORD, MURPHY & TILLY, INC.
CONSULTING ENGINEERS
2750 WEST WASHINGTON STREET
SPRINGFIELD, ILLINOIS 62702

FEBRUARY 4, 1994

1.0 INTRODUCTION

The Springfield Metropolitan Sanitary District (SMSD) disposes of treated sewage sludge by land applying it to approximately 120 acres at three separate locations (farms). This practice was begun in 1975 and continues to this day. Groundwater monitoring was commenced in 1984 to evaluate the impact of sludge disposal on groundwater quality at the farms.

This report summarizes the results of the nitrate groundwater monitoring data collected since 1984, evaluates the impact of sludge disposal on groundwater and describes the methods the SMSD will use to determine compliance with existing ground water quality standards.

2.0 REGULATORY REQUIREMENTS

State and Federal programs have been established which regulate the potential impact of this operation on groundwater. The primary State program is administered by the Illinois Environmental Protection Agency (IEPA) under Title 35, Illinois Administrative Code, Part 620. These regulations establish four classifications of groundwater briefly described as follows:

- | | | |
|-----------|---|------------------------------|
| Class I | - | Potable Resource Groundwater |
| Class II | - | General Resource Groundwater |
| Class III | - | Special Resource Groundwater |
| Class IV | - | Other Groundwater |

No Class III or Class IV groundwaters have been established for these areas by the IEPA. A request was submitted to the IEPA on July 12, 1993 to classify groundwater at the

sludge application farms as Class II General, rather than Class I Potable Use. That request was approved in a letter from IEPA on July 21, 1993. This classification carries a nitrate level for Class II, general use groundwater of 100 parts per million (ppm). Had this request not been approved, the Class I Potable Use Standard of 10 ppm would have applied.

The primary Federal program regulating the impacts of this operation on groundwater is under Title 40 CFR, Part 503, Sludge Management Regulations. Specifically, these regulations state that land disposal of sludge shall not contaminate an aquifer. The term "contaminate an aquifer" is specifically defined as causing the maximum contaminant level (M.C.L.) for nitrates to exceed the limit set in 40 CFR 141.11 (10 ppm). For those areas where nitrates already exceed M.C.L.'s, land disposal may not cause those existing levels to increase.

3.0 DATA SELECTION AND ANALYSIS

While apparently straight-forward, the requirement that land application not increase nitrate levels brings up the question as to what actually constitutes an "increase" and what method will be used to determine that question.

3.1 Monitoring Locations

In consultation with USEPA personnel, several existing wells have been selected to monitor for this determination. Those wells are as follows:

Spring Creek West Farm	-	SP-2
	-	SP-3
Spring Creek East Farm	-	SP-4
	-	SP-5

All of these wells are in locations which have been determined to be in downgradient locations of their respective farms.

3.2 Background Data Analyses

Tables 1 and 2 present a summary of all data collected from these wells through 1993. Nine years of data are available at Spring Creek Farm and ten years of data are available at Sugar Creek Farm. A cursory review of this existing data shows drastic fluctuations in nitrate values which peaked in the late 1980's and have been in an overall decline since that time.

In USEPA's September 14, 1993 letter it was recommended that due to this temporal variation the most significant factor contributing to this variation should be identified. Specifically, the relationship between nitrate levels, precipitation and sludge application rates were recommended to be examined.

Figures 1 and 2 are plots of nitrate levels versus total annual rainfall in a typical downgradient well at Spring and Sugar Creek Farms, respectively. At both farms, the trends between groundwater nitrates and total annual rainfall appear to be inversely related. Time periods of decreasing rainfall appear to coincide with increasing nitrates and visa versa. Correlations between groundwater nitrates and sludge application rates are not as well defined. (Figures 3 and 4). For Spring Creek (Figure 3), there appears to be good correlation between increasing nitrates and sludge application rates up to a point. However, starting in 1990 sludge application rates have increased or held steady while groundwater nitrate levels have shown a steady decrease.

SPRINGFIELD METROPOLITAN SANITARY DISTRICT
DOWNGRADE GROUND WATER NITRATE DATA
SPRING CREEK PLANT

DATE SAMPLED	WELL NUMBER							
	SP-2	LOG	SP-3	LOG	SP-4	LOG	SP-5	LOG
3/84								
6/84								
9/84								
12/84	1.9	0.273754	40	1.60206	3.7	0.563202	17.6	1.245513
3/85	1.4	0.146128	70	1.845098	25	1.39794	20	1.30103
6/85	0.9	-0.04576	14	1.146128	24	1.380211	35	1.544068
9/85	2.1	0.322219	8	0.90309	20	1.30103	42	1.823249
12/85	2.9	0.462398	20	1.30103	14	1.146128	21	1.322219
3/86	2.76	0.440909	24.2	1.383315	23.9	1.378398	40.9	1.611723
6/86	4.15	0.618048	29.6	1.471292	24	1.380211	42.8	1.631444
9/86	6	0.778151	18	1.255273	27	1.431364	63	1.799341
12/86	7.2	0.857332	36	1.556303	26	1.414973	67	1.826075
3/87	1.77	0.247973	20.7	1.31597	15.4	1.187521	49.5	1.694805
6/87	1.95	0.290035	17.2	1.235528	16.2	1.209515	55	1.740363
9/87	5.2	0.716003	20	1.30103	16	1.20412	24	1.380211
12/87	5.4	0.732394	76	1.830814	48	1.681241	70	1.845098
3/88	3	0.477121	37	1.553202	65	1.812913	93	1.968483
6/88	4	0.60206	47	1.672098	66	1.819544	94	1.973128
9/88	12.7	1.103804	50	1.69897	44	1.643453	110	2.041393
12/88	14	1.146123	67	1.826075	34	1.531479	121	2.082785
3/89	1.3	0.113943	56	1.748188	104	2.017033	133	2.123852
6/89	2.2	0.342423	24	1.380211	88	1.944483	124	2.093422
9/89	3.5	0.544068	16	1.20412	93	1.968483	111	2.045323
12/89	4.5	0.653213	14	1.146128	123	2.089905	150	2.176091
3/90	4.5	0.653213	54	1.732394	132	2.120574	163	2.212188
6/90	5	0.69897	38	1.579784	98	1.991226	121	2.082785
9/90	6.9	0.838849	35	1.556303	91	1.959041	144	2.158362
12/90	0.8	-0.09691	14	1.146128	103	2.012837	112	2.049218
3/91	1.1	0.041393	20	1.30103	94	1.973128	98	1.991226
6/91	1.2	0.079181	21	1.322219	86	1.934498	103	2.012837
9/91	1	0	21	1.322219	72	1.857332	95	1.977724
12/91	2	0.30103	6	0.778151	50	1.69897	46	1.662758
3/92	3.4	0.531479	18	1.255273	83	1.919078	128	2.100371
6/92	7.9	0.897627	10.2	1.0066	96	1.982271	88	1.944483
9/92								
12/92	2.8	0.447158	6.1	0.76533	60	1.778151	74	1.869232
3/93	2.2	0.342423	6	0.778151	56	1.748188	52	1.716003
6/93	3.8	0.579784	7.3	0.863323	68	1.832509	71	1.851258
9/93	4.5	0.653213	75	1.830814	78	1.892095	105	2.021189
12/93	1.3	0.113943	25	1.447158	73	1.863323	49	1.690196

n	35	36	36	36
MEAN	0.469685	1.356519	1.668649	1.844701
VARIANCE	0.099194	0.101253	0.121568	0.069012
C.I.(80)	0.558835	1.45767	1.777967	1.906759
MEAN(80)	3.821455	25.63599	59.97456	80.67874

48 MO. RUNNING MEAN

N	15	15	15
MEAN	0.405423	1.250458	1.904215
VARIANCE	0.103044	0.126066	0.012335
C.I.(80)	0.501843	1.36842	1.915782
MEAN (80)	3.175724	23.35715	82.37248

SPRINGFIELD METROPOLITAN SANITARY DISTRICT
DOWNGRAIENT GROUND WATER NITRATE DATA
SUGAR CREEK PLANT

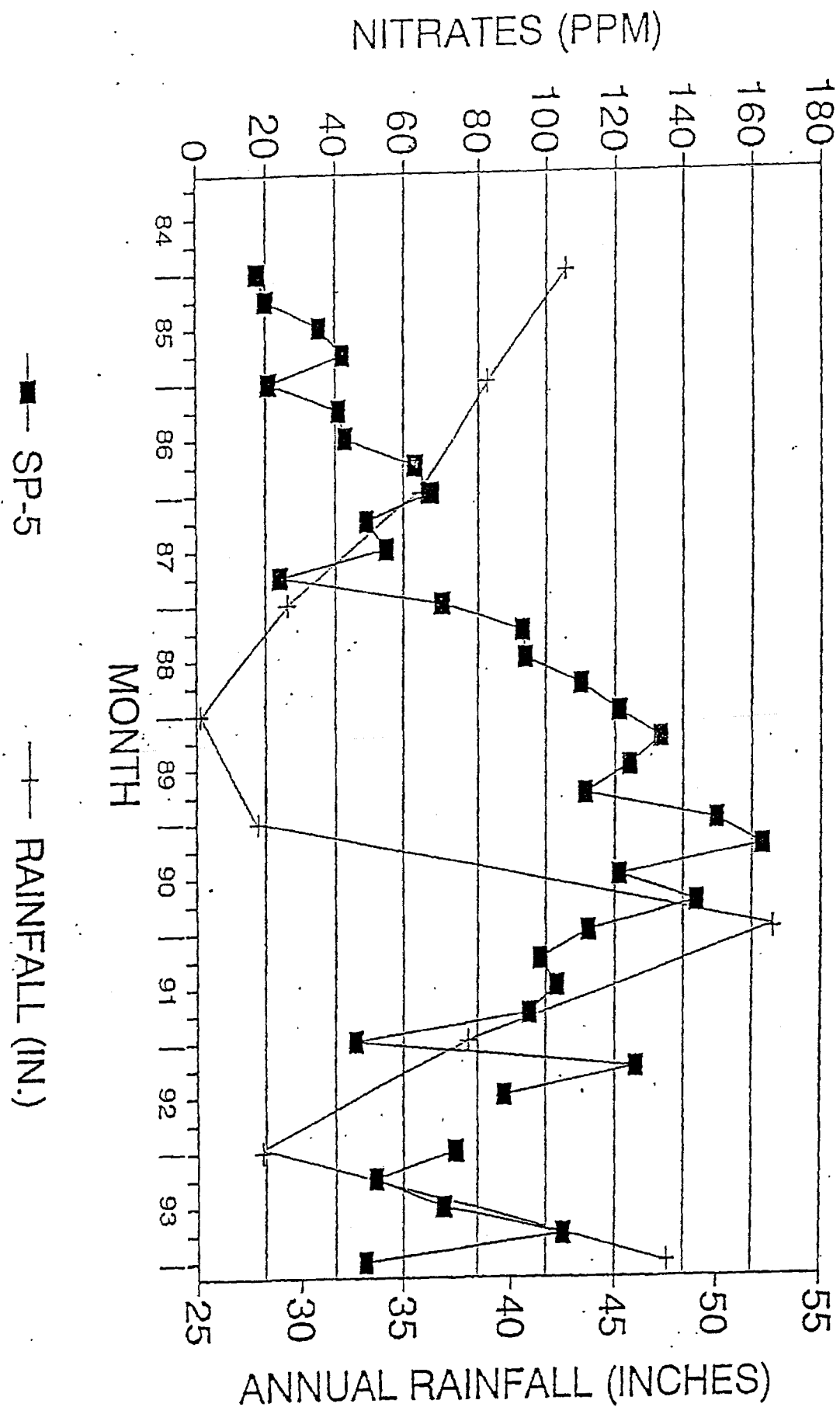
DATE SAMPLED	WELL NUMBER			
	SU-3	LOG	SU-4	LOG
3/84	23	1.361728	67	1.826075
6/84	11.2	1.049218	72	1.857332
9/84	1.5	0.176091	72	1.857332
12/84	7.1	0.851258	74	1.869232
3/85	25	1.39794	74	1.869232
6/85	0.77	-0.11351	83	1.919078
9/85	0.66	-0.18046	92	1.963788
12/85	25.88	1.412964	95	1.977724
3/86	25.2	1.401401	90.8	1.957128
6/86	16.3	1.212188	101	2.004321
9/86	4.8	0.631241	110	2.041393
12/86	29	1.462398	103	2.012837
3/87	5.76	0.760422	55.7	1.745855
6/87	0.93	-0.03152	59	1.770852
9/87	2.7	0.431364	102	2.0086
12/87	37	1.568202	143	2.155336
3/88	13	1.113943	83	1.944483
6/88	2.6	0.414973	96	1.982271
9/88	10.4	1.017033	133	2.123852
12/88	14.2	1.152288	147	2.167317
3/89	0.6	-0.22185	113	2.071882
6/89	2.8	0.447158	145	2.161368
9/89	33.4	1.523746	129	2.11059
12/89	1.8	0.255273	157	2.222716
3/90	13.4	1.127105	169	2.227887
6/90	6.6	0.819544	147	2.167317
9/90	3.4	0.531479	129	2.11059
12/90	1.4	0.146128	95	1.977724
3/91	0.8	-0.09691	72	1.857332
6/91	1	0	55	1.770852
9/91	0.8	-0.09691	83	1.919078
12/91	1	0	60	1.778151
3/92	1.2	0.079181	73	1.863323
6/92	2.9	0.462398	72	1.857332
9/92				
12/92	3.9	0.591085	67	1.826075
3/93	1	0	36	1.556303
6/93	1.1	0.041393	32	1.50515
9/93	1.1	0.041393	55	1.748188
12/93	0.5	-0.30103	23	1.361728

n	39	39
MEAN	0.576624	1.926862
VARIANCE	0.351044	0.036653
C.I.(80)	0.576624	1.926862
MEAN(80)	3.772454	64.50106

43 MO. RUNNING MEAN

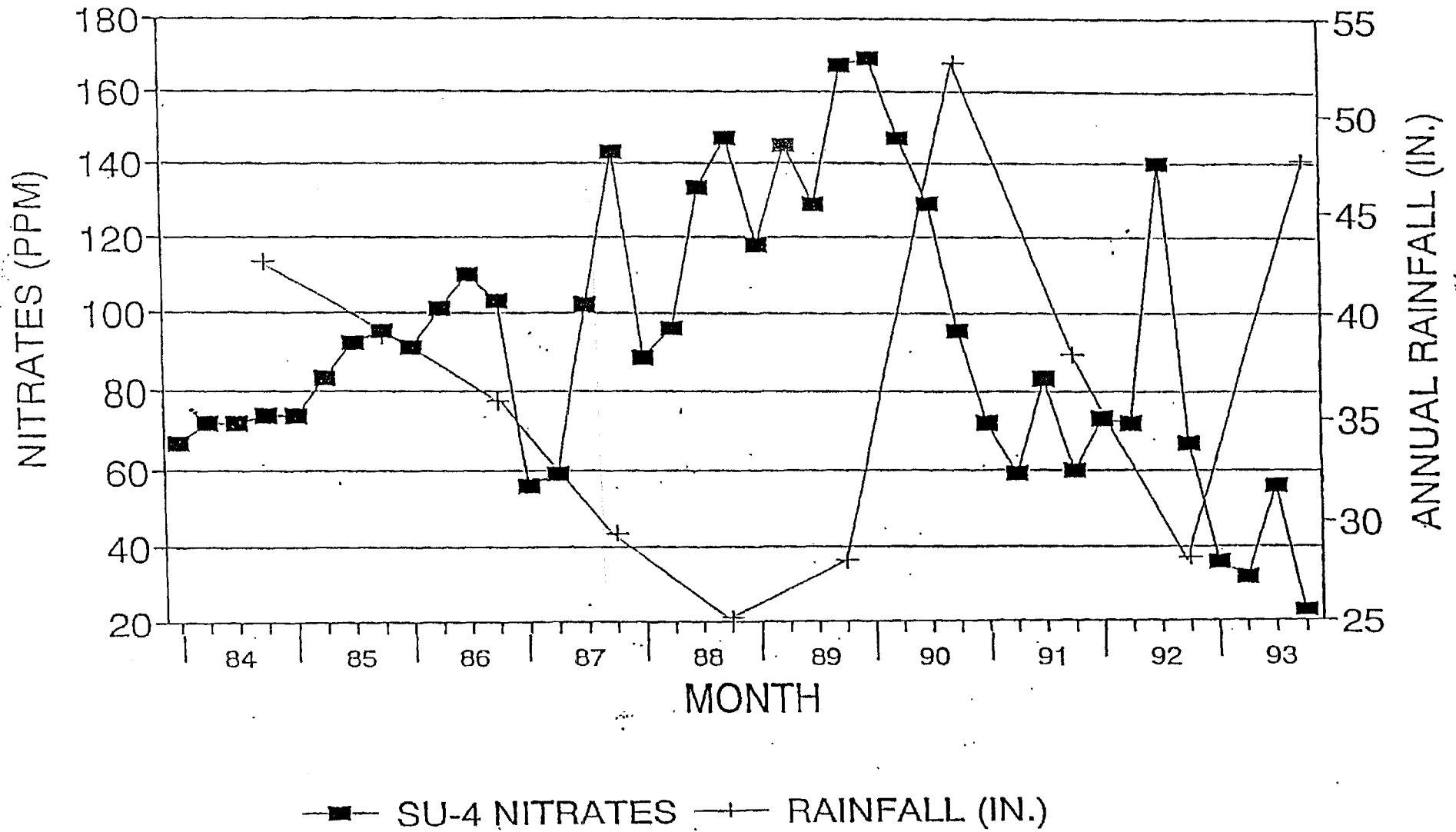
n	15	15
MEAN	0.222939	1.535135
VARIANCE	0.155375	0.056815
C.I.(80)	0.333843	1.638298
MEAN(80)	2.337992	77.32101

SMSD - SPRING CREEK EAST NITRATES VS. RAINFALL



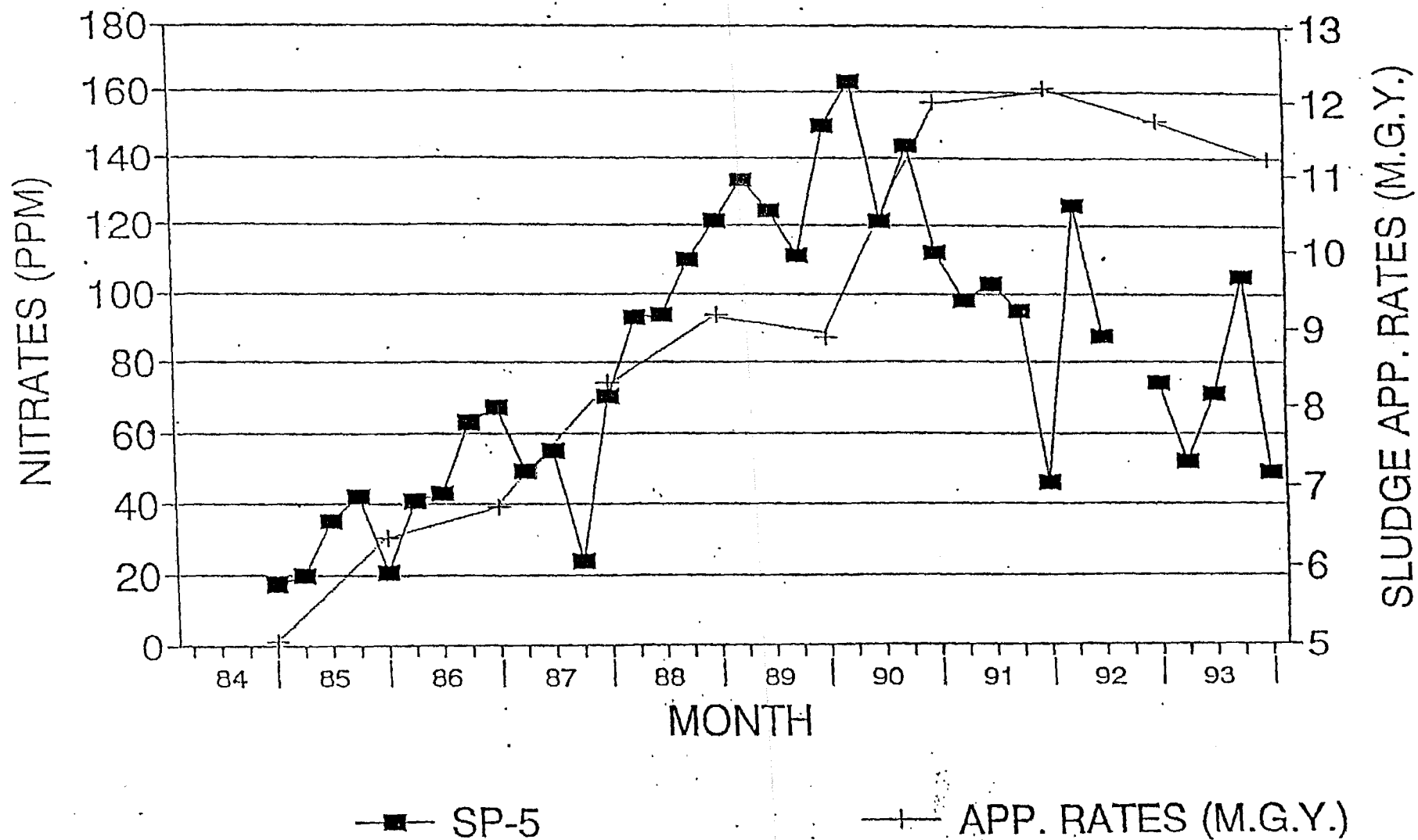
SMSD - SUGAR CREEK FIELD

NIRATES VS. RAINFALL

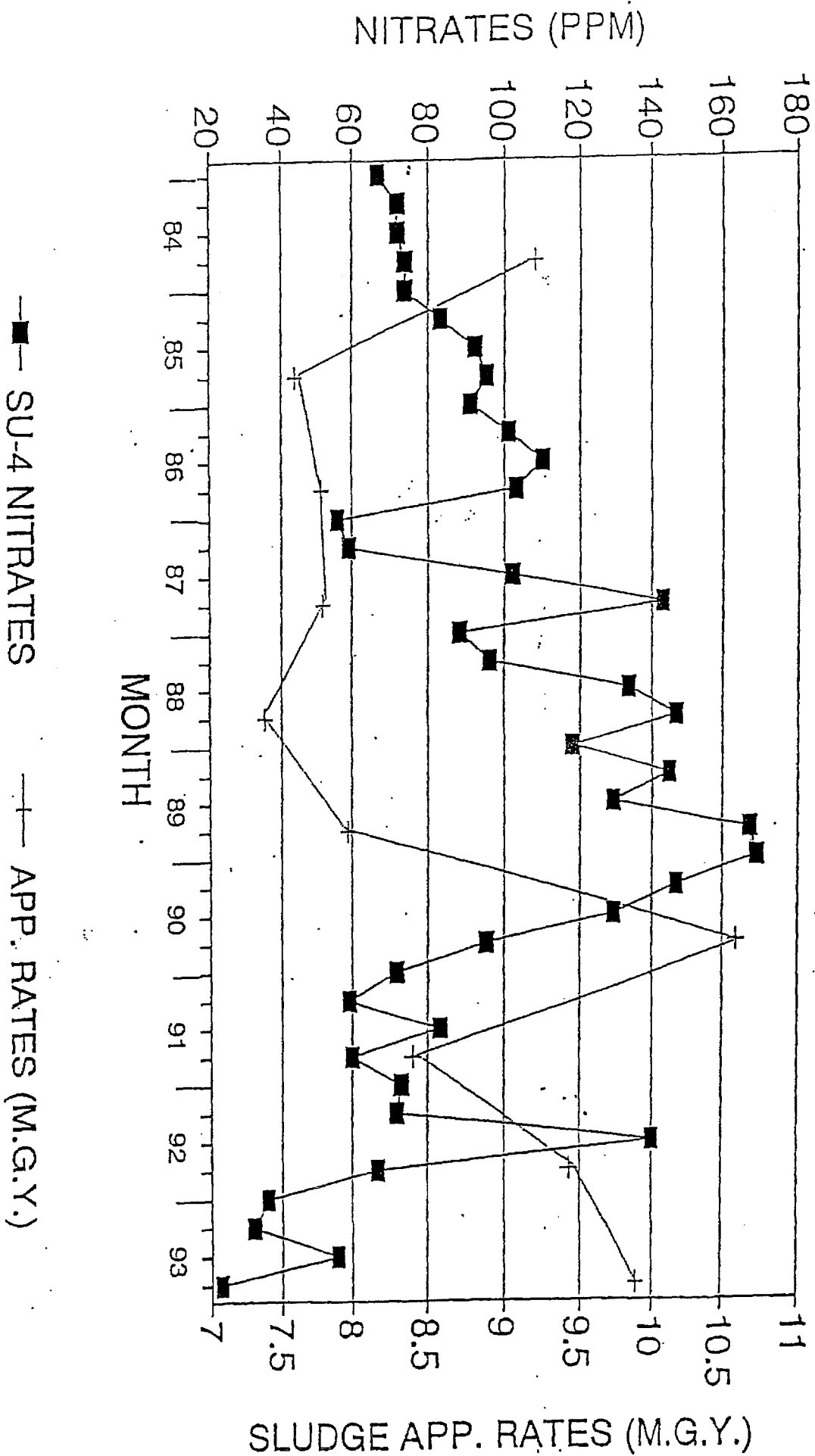


SMSD - SPRING CREEK EAST

NITRATES VS. SLUDGE APP. RATES



SMSD - SUGAR CREEK FIELD NITRATES VS. SLUDGE APP. RATES



The conclusion is therefore reached that the amount of rainfall and hence, recharge to the aquifer, is a more important controlling factor in groundwater nitrates than the sludge application rates.

4.0 ESTABLISHMENT OF GROUNDWATER NITRATE LIMITS

In correspondence from the USEPA dated September 14, 1993 and January 25, 1994, limits were recommended on nitrates in the previously listed wells. They are as follows:

Spring Creek - West	SP-2	50.0 ppm
	SP-3	50.0 ppm
Spring Creek - East	SP-4	95.0 ppm
	SP-5	95.0 ppm
Sugar Creek	SU-3	15.0 ppm
	SU-4	100.0 ppm

To establish these recommended limits, USEPA made certain assumptions, primarily that the historical groundwater data is not, statistically, normally distributed. Before further statistical manipulation, all data was transformed to base ten logarithms to arrive at a more log normal distribution. Next, a statistical mean was established at an 80% confidence interval. After this limit was established, the agency added an additional percentage to the calculated statistical mean to account for the relatively low confidence limit (80%) used.

In subsequent discussions with the agency, the issue was discussed as to whether the recommended limit was a true "not-to-exceed" value or if some form of averaging could be used to determine compliance with the recommended limit. In a telephone conversation with USEPA on December 9, 1993, it was agreed that some type of averaging could be

proposed to determine compliance with the recommended limits. The primary justification for averaging of data as opposed to using single points to determine compliance rests in the nature of the data itself. Even though data may exhibit an overall trend, one well's nitrate values can vary from quarter to quarter in response to very specific events. Even though one high nitrate value may occur, the overall trend of the data may still be unaffected. It was further agreed that the averaging method should be consistent with the methodology used to calculate the statistical mean values. The time over which the average would be calculated should also be tied to the nature of the data and those factors which influence groundwater nitrate values.

5.0 COMPLIANCE METHODOLOGY

This section proposes the method by which the SMSD will evaluate groundwater nitrate data and determine whether the overall quality is increasing or decreasing.

Figures 5, 6, 7 and 8 display graphs of groundwater nitrate values for all of the designated monitoring wells. Also shown on each graph is the recommended nitrate limit for the subject wells. Compliance will be evaluated by the following procedure:

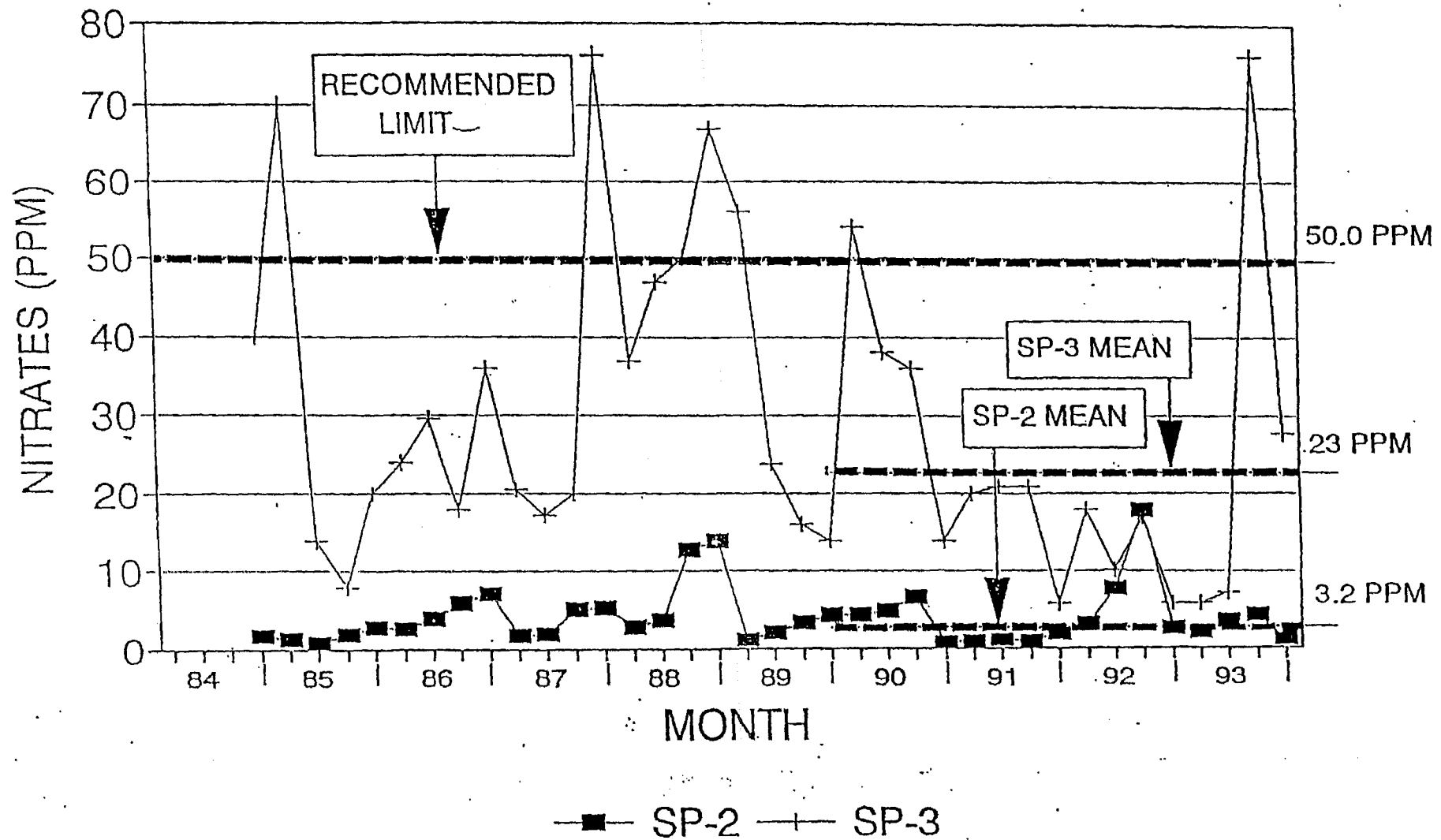
1. Data from the last 4 years (16 quarters) will be converted to base 10 log values.
2. Arithmetic mean and sample variance (n-1) will be calculated for this data.
3. The upper confidence limit (U.C.L.) for the collected data set will be calculated at an 80% confidence level by the formula:

$$X + [(t_{80\%} (1 + 1/n)^{0.5} (S))]$$

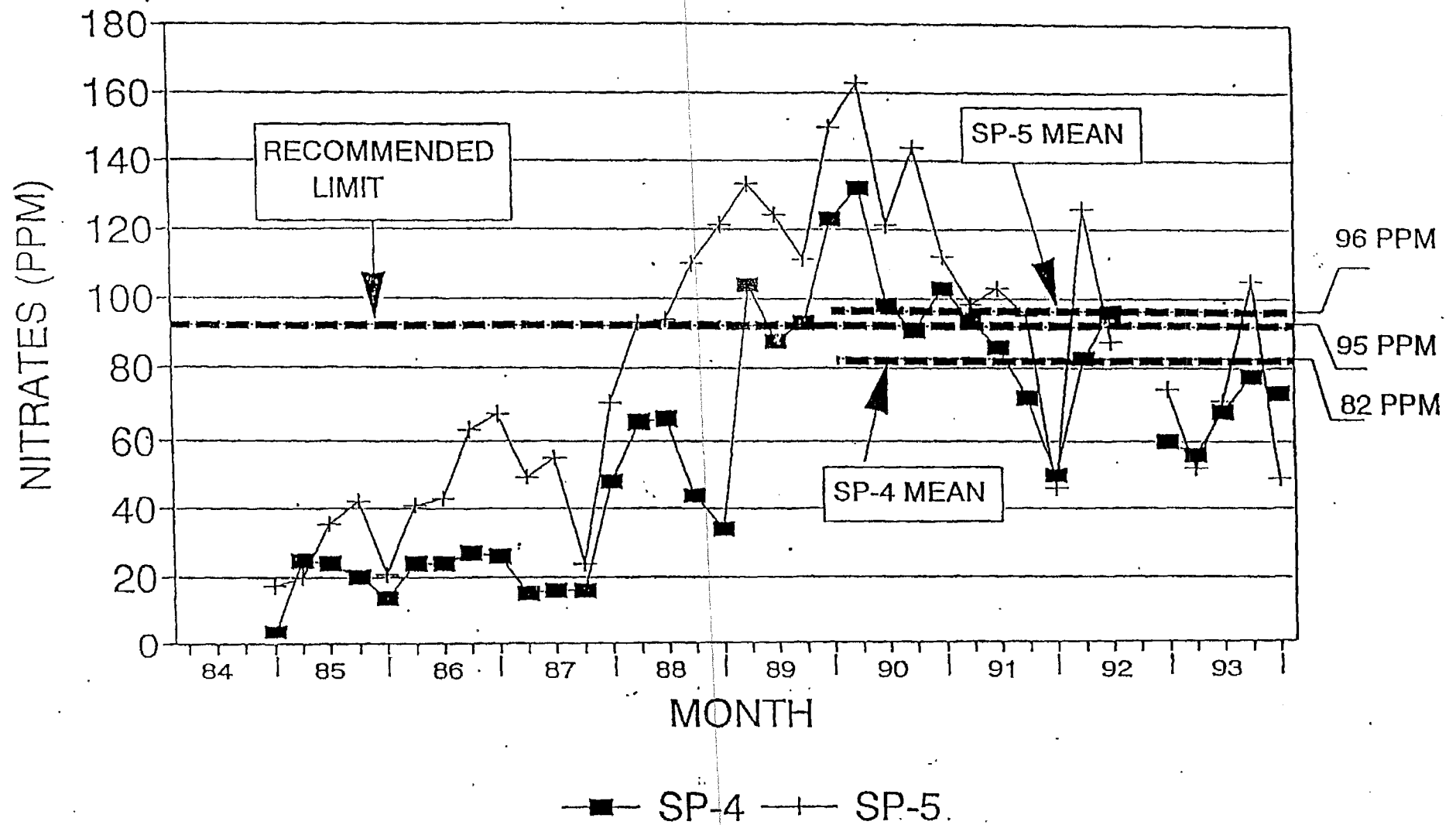
$$= 1.9268 [1.303 (1 + 1/39)^{0.5} (.03665)]$$

SMSD - SPRING CREEK WEST

WELLS SP-2 AND SP-3

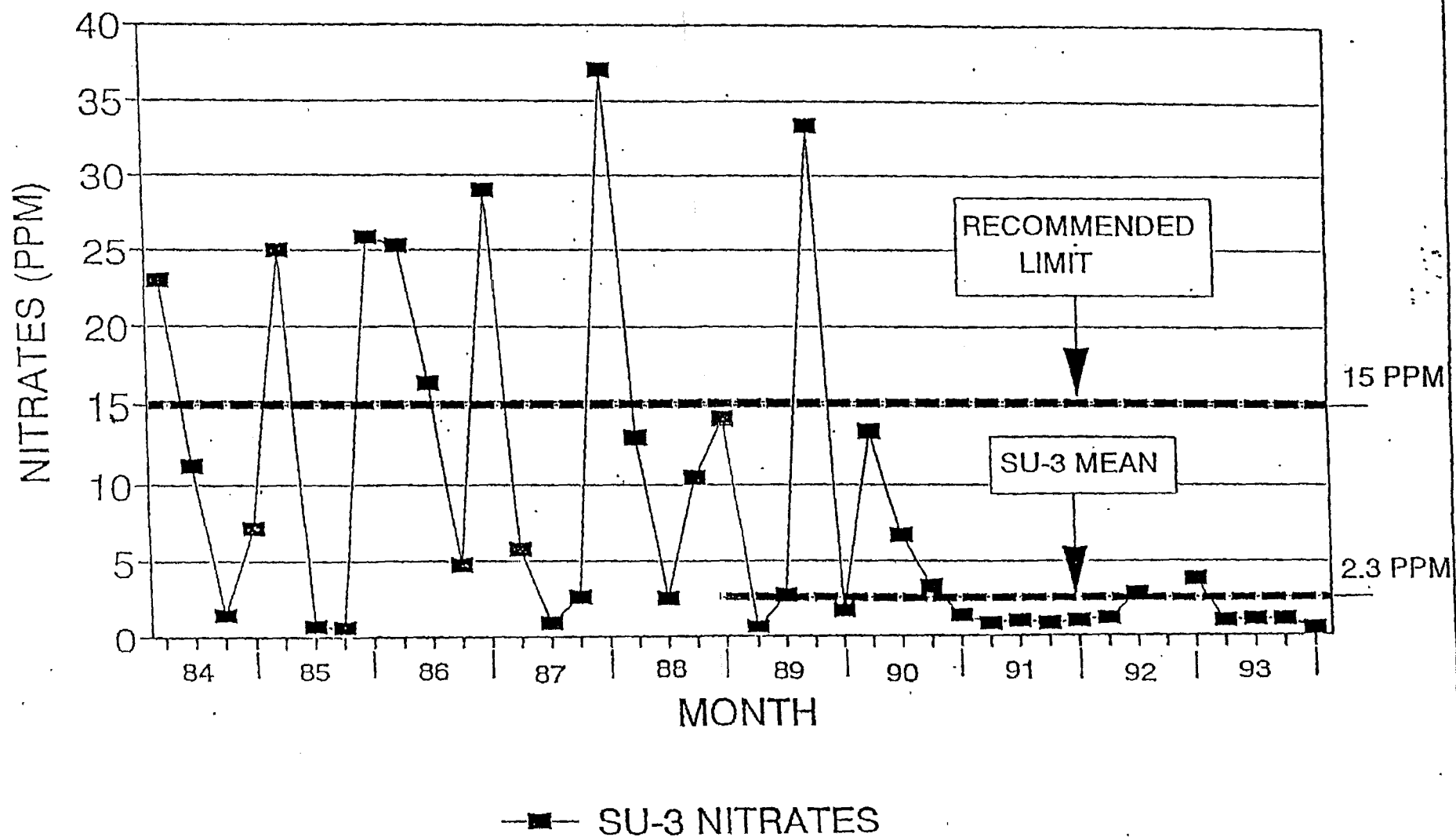


SMSD - SPRING CREEK EAST WELLS SP-4 AND SP-5



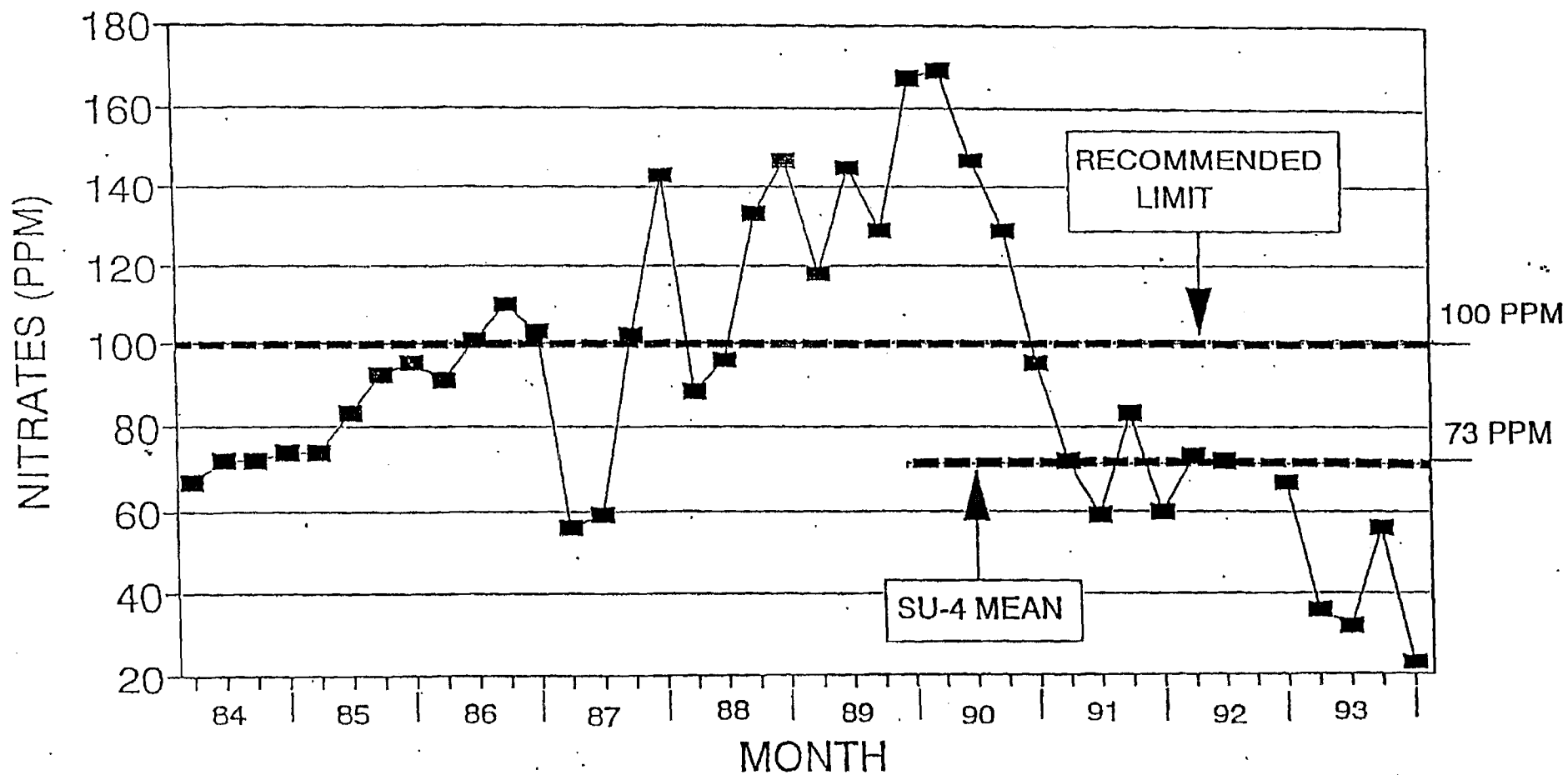
SMSD - SUGAR CREEK FIELD

WELL - SU 3



SMSD - SUGAR CREEK FIELD

WELL - SU 4



—■— SU-4 NITRATES

where:

\bar{X} = arithmetic sample mean

$t_{90\%}$ = "t" value for 80% confidence limit with "n" degrees of freedom

n = number of samples collected, and

s = sample variance (n-1)

4. Resultant U.C.L. values are then recalculated from log to arithmetic values.

Along with the recommended nitrate limits for each set of wells, Figures 5-8 also show the calculated nitrate averages for the last 48 months (16 quarters) of data, using the previously described method for each of the designated downgradient wells.

A 48 month time period was selected for averaging for the following reasons:

1. The 48 month interval coincides roughly with the latest observed period of low rainfall observed at both farms in the late 80's during which groundwater nitrate values also varied correspondingly.
2. A 48 month time interval will be less likely to allow a single anomalously high or low data point to inordinately alter the overall average data. This is important so that the SMSD can use this monitoring data as a long term method to plan for and mitigate potential problems rather than to react to a shorter, more potentially volatile time period.
3. No other, shorter trends (i.e. 12 or 24 months) are observed in the data upon which to base a rational interval.

4. Geologic conditions and existing area site uses at these sites are conducive to a longer monitoring period. If an area of sensitive groundwater conditions or users were present, then a much shorter time period (12 or 24 months) may be required in order to more quickly detect and mitigate adverse trends.

6.0 CONCLUSIONS

The proposed monitoring strategy provides a rational procedure to monitor groundwater quality for these sites. The strategy takes into account site specific hydrogeology, management practices and changing environmental conditions. In addition, the procedure allows for the SMSD to implement changes in management practices that may be required should nitrates trend upward.

Even though the SMSD believes this a rational and accurate methodology, it is still recognized that more accurate or reliable methods of determining compliance with nitrate standards may be developed in the future. If this is the case, the SMSD reserves the right to modify this plan to account for these new methods. In such case the USEPA will be contacted for their review and recommendations at that time.

TABLE # 3

2010

FORM 7A-1
IL-EPA

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-1 (INSTALLED 10/24/83)

* WELL TYPE - UG

GROUND ELEVATION: 555.42

TOP OF PIPE ELEVATION: 557.08

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

6.7

6.7

6.9

7.0

6.8

HARDNESS (CaCO₃)

450

600

550

700

575

ELECT. COND.

900

1510

1480

760

1163

CHLORIDE

250

500

450

250

363

AMMONIA NITROGEN (N)

0.2

0.2

0.1

0.3

0.2

NITRATE (N)

0.7

1.1

2.1

1.0

1.2

ARSENIC

<

0.005

<

0.005

<

0.005

<

0.005

<

0.005

CADMIUM

<

0.001

<

0.001

<

0.001

<

0.001

<

0.001

CHROMIUM

<

0.01

<

0.01

<

0.01

<

0.01

<

0.01

COPPER

0.013

<

0.005

0.007

0.002

<

0.007

MANGANESE

1.62

1.65

1.04

1.08

1.35

MERCURY

<

0.0002

<

0.0002

<

0.0002

<

0.0002

<

0.0002

MOLYBDENUM

<

0.01

<

0.01

<

0.01

<

0.01

<

0.01

NICKEL

0.006

<

0.005

0.002

<

0.001

<

0.004

LEAD

<

0.01

<

0.01

<

0.01

<

0.01

<

0.01

ZINC

0.09

<

0.05

<

0.05

<

0.05

<

0.06

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

2010

FORM 7A-2
IL-EPA

TABLE # 4

MONITORING WELLS ANALYSIS

NOTE: NEW WELL INSTALLED
ON JULY 25, 1996

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-2 (INSTALLED 10/18/83)

* WELL TYPE - DG

GROUND ELEVATION: 539.36

TOP OF PIPE ELEVATION: 540.33

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC. 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

7.0

7.1

7.1

7.2

7.1

HARDNESS (CaCO₃)

420

420

420

440

425

ELECT. COND.

610

690

700

710

678

CHLORIDE

29

39

30

51

37

AMMONIA NITROGEN (N)

0.9

0.6

1.1

1.0

0.9

NITRATE (N)

0.6

0.3

0.3

0.3

0.4

ARSENIC	<	0.005	<	0.005	<	0.005	<	0.005	<	0.005
CADMIUM	<	0.001	<	0.001	<	0.001	<	0.001	<	0.001
CHROMIUM	<	0.01	<	0.01	<	0.01	<	0.01	<	0.01
COPPER	<	0.002	<	0.005	<	0.002	<	0.002	<	0.003
MANGANESE		0.12		0.29		0.46		0.32		0.30
MERCURY	<	0.0002	<	0.0002	<	0.0002	<	0.0002	<	0.0002
MOLYBDENUM	<	0.01	<	0.01	<	0.01	<	0.01	<	0.01
NICKEL		0.002	<	0.005	<	0.001		0.002	<	0.003
LEAD	<	0.01	<	0.01	<	0.01	<	0.01	<	0.01
ZINC		0.14	<	0.05	<	0.05	<	0.05	<	0.07

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

TABLE # 5

2010

FORM 7A-3
IL-EPA

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-3 (INSTALLED 10/18/83)

* WELL TYPE - DG

GROUND ELEVATION: 538.49

TOP OF PIPE ELEVATION: 540.46

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

7.3

7.2

7.3

7.3

7.3

HARDNESS (CaCO₃)

400

460

400

400

415

ELECT. COND.

590

640

670

650

638

CHLORIDE

3

2

2

15

6

AMMONIA NITROGEN (N)

3.1

1.2

1.6

2.2

2.0

NITRATE (N)

0.3

0.4

0.3

0.4

0.4

NITRATE (N) - 48 MO. AVE.

0.4

0.4

0.4

0.4

0.4

USEPA 15mg/l, ILEPA 30mg/l

ARSENIC

<

0.005 <

0.005 <

0.005 <

0.005 <

0.005

CADMIUM

<

0.001 <

0.001 <

0.001 <

0.001 <

0.001

CHROMIUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

COPPER

<

0.002 <

0.005 <

0.002

0.020 <

0.007

MANGANESE

0.14

0.09

0.10

0.06

0.10

MERCURY

<

0.0002 <

0.0002 <

0.0002 <

0.0002 <

0.0002

MOLYBDENUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

NICKEL

0.002 <

0.005 <

0.001 <

0.001 <

0.002

LEAD

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

ZINC

<

0.05 <

0.05 <

0.05 <

0.05 <

0.05

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

TABLE # 6

2010

FORM 7A-4
IL-EPA

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-4 (INSTALLED 10/18/83)

* WELL TYPE - DG

GROUND ELEVATION: 538.32

TOP OF PIPE ELEVATION: 539.19

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

7.0

6.9

7.0

7.0

7.0

HARDNESS (CaCO3)

1500

1500

1400

1600

1500

ELECT. COND.

1500

1810

1680

1670

1665

CHLORIDE

46

46

32

52

44

AMMONIA NITROGEN (N)

0.5

0.2

3.7 <

0.1 <

1.1

NITRATE (N)

52.0

40.0

34.0

30.0

39.0

NITRATE (N) - 48 MO. AVE.

51.5

54.0

56.1

58.0

54.9

USEPA 100mg/l, ILEPA 100mg/l

ARSENIC

<

0.005 <

0.005 <

0.005 <

0.005 <

0.005

CADMIUM

<

0.001 <

0.001 <

0.001 <

0.001 <

0.001

CHROMIUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

COPPER

<

0.002

0.007

0.002

0.008 <

0.005

MANGANESE

0.80

1.79

3.12

1.42

1.78

MERCURY

<

0.0002 <

0.0002 <

0.0002 <

0.0002 <

0.0002

MOLYBDENUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

NICKEL

0.012

0.012

0.013

0.011

0.012

LEAD

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

ZINC

<

0.05 <

0.05 <

0.05 <

0.05 <

0.05

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

TABLE # 7

2010

FORM 7A-5
IL-EPA

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-5 (INSTALLED 10/18/83)

* WELL TYPE - DG

GROUND ELEVATION: 541.32

TOP OF PIPE ELEVATION: 543.39

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

6.9

6.9

7.0

7.1

7.0

HARDNESS (CaCO₃)

750

900

550

650

713

ELECT. COND.

990

970

810

790

890

CHLORIDE

26

30

40

58

39

AMMONIA NITROGEN (N)

0.2

0.1

0.3

0.5

0.3

NITRATE (N)

0.6

1.7

0.5

23.0

6.5

ARSENIC

<

0.005 <

0.005 <

0.005 <

0.005 <

0.005

CADMIUM

<

0.001 <

0.001 <

0.001 <

0.001 <

0.001

CHROMIUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

COPPER

0.007

0.009

0.003

0.002

0.005

MANGANESE

2.88

1.49

1.02

0.83

1.56

MERCURY

<

0.0002 <

0.0002 <

0.0002 <

0.0002 <

0.0002

MOLYBDENUM

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

NICKEL

0.024

0.007

0.003

0.003

0.009

LEAD

<

0.01 <

0.01 <

0.01 <

0.01 <

0.01

ZINC

<

0.05 <

0.05 <

0.05 <

0.05 <

0.05

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

TABLE # 7-A

2010

FORM 7A-6
IL-EPA

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

WELL NUMBER - SU-6 (INSTALLED 5/27/93)

* WELL TYPE - DG

GROUND ELEVATION: 538.86

TOP OF PIPE ELEVATION: 541.03

SAMPLE DATE:

MAR. 11

JUN. 16

SEP. 14

DEC 9

AVE.

WATER ELEVATION:

WATER DEPTH (ft.):

pH (UNITS)

7.0

7.1

7.3

7.1

7.1

HARDNESS (CaCO3)

460

500

440

460

465

ELECT. COND.

120

740

770

760

598

CHLORIDE

2

1

2

7

3

AMMONIA NITROGEN (N)

11.6

5.2

8.6

11.3

9.2

NITRATE (N)

0.9

0.3

0.4

0.3

0.5

NITRATE (N) - 48 MO. AVE.

0.4

0.4

0.4

0.4

0.4

ARSENIC

0.006 <

0.005 <

0.005 <

0.005 <

0.005

CADMIUM

< 0.001 <

0.001 <

0.001 <

0.001 <

0.001

CHROMIUM

< 0.01 <

0.01 <

0.01 <

0.01 <

0.01

COPPER

< 0.002 <

0.005

0.008 <

0.002 <

0.004

MANGANESE

0.32

0.15

0.16

0.09

0.18

MERCURY

< 0.0002 <

0.0002 <

0.0002 <

0.0002 <

0.0002

MOLYBDENUM

< 0.01 <

0.01 <

0.01 <

0.01 <

0.01

NICKEL

0.001 <

0.005 <

0.001 <

0.001 <

0.002

LEAD

< 0.01 <

0.01 <

0.01 <

0.01 <

0.01

ZINC

0.07 <

0.05 <

0.05 <

0.05 <

0.06

*WELL TYPE - UG (UP-GRADIENT) - DG (DOWN-GRADIENT)

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.

ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

2010

FORM 7A-7

TABLE # 8

MONITORING WELLS ANALYSIS

SPRINGFIELD METRO SANITARY DISTRICT

LOCATION: SUGAR CREEK PLANT

(REPORTED QUARTERLY)

UNDERDRAIN

SAMPLE DATE:		MAR. 11		JUN. 16		SEP. 14		DEC 9		AVE.
pH (UNITS)		6.9		7.0		7.0		7.0		7.0
HARDNESS (CaCO ₃)		800		750		1050		900		875
ELECT. COND.		1100		1120		1390		1310		1230
CHLORIDE		65		150		95		125		109
AMMONIA NITROGEN (N)		2.4		0.1		0.1		0.1		0.7
NITRATE (N)		46.0		2.0		59.0		16.2		30.8
<hr/>										
ARSENIC	<	0.005	<	0.005	<	0.005	<	0.005	<	0.005
CADMIUM	<	0.001	<	0.001	<	0.001	<	0.001	<	0.001
CHROMIUM	<	0.01	<	0.01	<	0.01	<	0.01	<	0.01
COPPER		0.026		0.006		0.033		0.009		0.019
MANGANESE		0.35		0.85		0.50		0.66		0.59
MERCURY	<	0.0002	<	0.0002	<	0.0002	<	0.0002	<	0.0002
MOLYBDENUM		0.01	<	0.01	<	0.01	<	0.01	<	0.01
NICKEL		0.010		0.006		0.010		0.006		0.008
LEAD	<	0.01	<	0.01	<	0.01	<	0.01	<	0.01
ZINC	<	0.05	<	0.05	<	0.05		0.06	<	0.05

ALL RESULTS EXPRESSED AS mg/l UNLESS OTHERWISE NOTED.
ELECTRICAL CONDUCTIVITY EXPRESSED AS MICROMHOS/CM.

Attachment "A"

Priority Pollutants Results:

Raw Sewage Influent

Tertiary Effluent

Sludge Disposal

TMI Analytical Services, LLC

NELAC Accredited #100447

2110 N. Republic St.
Springfield, IL 62702
217-698-0642 Fax: 217-698-0656
tmi@tmi-lab.com

04-Aug-08

Fred Nika
Springfield Metro Sanitary Dist.
3017 N. Eighth
Springfield, IL 62707

TEL: (217) 528-0491
FAX: (217) 528-0497

RE: SMSD Sugar Creek Annual

Order No.: 0807094

Dear Fred Nika:

TMI Analytical Services, LLC received 3 sample(s) on 7/16/2008 for the analyses presented in the following report.

Analytical results reported relate only to the actual samples tested. There were no problems with the analyses unless noted on the case narrative or qualified on the analytical results. The final report includes this cover letter, analytical report and a copy of the chain of custody. It may also include but not be limited to letters of explanation or raw data.



Dr. David Carpenter
Laboratory Director

TMI Analytical Services, LLC

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist.
Project: SMSD Sugar Creek Annual
Lab Order: 0807094

CASE NARRATIVE

All samples were received and analyzed within method required holding times unless qualified in the report. Samples met specified acceptance criteria except where noted below or qualified on the report. Microbiological field samples are not corrected based on data obtained for blank samples.

Subcontracted analyses were performed at NELAC accredited laboratory #100226.

D=RL has been set at or above method detection limit and below limit of quantitation.

Report Qualifiers:

- | | |
|--|---|
| • Increased reporting limit due to required dilution | A The laboratory control sample failed to meet the required acceptance criteria |
| B Analyte detected in the associated Method Blank | E Value above quantitation range |
| F Analyte failed to meet the required acceptance criteria for duplicate analysis | H Holding times for preparation or analysis exceeded |
| M Matrix interference(s) identified | P Chemical preservation discrepancy noted at time of analysis |
| RL Reporting Limit | Sc Scan Only |
| SUB Subcontracted | TNTC Too numerous to count |
| V Verification standard recovery failed to meet the required acceptance criteria | |

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist.

Lab Order: 0807094

Project: SMSD Sugar Creek Annual

Lab ID: 0807094-001

Collection Date: 7/16/2008 7:00:00 AM

Client Sample ID: Raw Influent

Matrix: AQUEOUS

Analyses	RL	Result	Qual	Units	Date Analyzed
ORGANOCHLORINE PESTICIDES					
4,4'-DDD	0.05	<RL		µg/L	7/21/2008
4,4'-DDE	0.05	<RL		µg/L	7/21/2008
4,4'-DDT	0.05	0.05		µg/L	7/21/2008
Aldrin	0.05	<RL		µg/L	7/21/2008
alpha-BHC	0.05	<RL		µg/L	7/21/2008
beta-BHC	0.05	<RL		µg/L	7/21/2008
Chlordane	0.05	<RL		µg/L	7/21/2008
delta-BHC	0.05	<RL		µg/L	7/21/2008
Dieldrin	0.05	<RL		µg/L	7/21/2008
Endosulfan I	0.05	<RL		µg/L	7/21/2008
Endosulfan II	0.05	<RL		µg/L	7/21/2008
Endosulfan sulfate	0.05	<RL		µg/L	7/21/2008
Endrin	0.05	<RL		µg/L	7/21/2008
Endrin aldehyde	0.05	<RL		µg/L	7/21/2008
gamma-BHC	0.05	<RL		µg/L	7/21/2008
Heptachlor	0.05	<RL		µg/L	7/21/2008
Heptachlor epoxide	0.05	<RL		µg/L	7/21/2008
Toxaphene	0.50	<RL		µg/L	7/21/2008
POLYCHLORINATED BIPHENYLS					
Aroclor 1016	1.0	<RL		µg/L	7/21/2008
Aroclor 1221	1.0	<RL		µg/L	7/21/2008
Aroclor 1232	1.0	<RL		µg/L	7/21/2008
Aroclor 1242	1.0	<RL		µg/L	7/21/2008
Aroclor 1248	1.0	<RL		µg/L	7/21/2008
Aroclor 1254	1.0	<RL		µg/L	7/21/2008
Aroclor 1260	1.0	<RL		µg/L	7/21/2008
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS					
1,2,4-Trichlorobenzene	10.0	<RL		µg/L	7/25/2008 6:27:00 PM
1,2-Dichlorobenzene	10.0	<RL		µg/L	7/25/2008 6:27:00 PM
1,2-Diphenylhydrazine	10.0	<RL		µg/L	7/25/2008 6:27:00 PM
1,3-Dichlorobenzene	10.0	<RL		µg/L	7/25/2008 6:27:00 PM

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist.

Lab Order: 0807094

Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS		E625	(SW3510)	Analyst: KM
1,4-Dichlorobenzene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,4,6-Trichlorophenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,4-Dichlorophenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,4-Dimethylphenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,4-Dinitrophenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,4-Dinitrotoluene	50.0	<RL	µg/L	7/25/2008 6:27:00 PM
2,6-Dinitrotoluene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2-Chloronaphthalene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2-Chlorophenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
2-Nitrophenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
3,3'-Dichlorobenzidine	20.0	<RL	µg/L	7/25/2008 6:27:00 PM
4,6-Dinitro-2-methylphenol	50.0	<RL	µg/L	7/25/2008 6:27:00 PM
4-Bromophenyl phenyl ether	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
4-Chloro-3-methylphenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
4-Chlorophenyl phenyl ether	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
4-Nitrophenol	50.0	<RL	µg/L	7/25/2008 6:27:00 PM
Acenaphthene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Acenaphthylene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Anthracene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benz(a)anthracene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benzidine	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benzo(a)pyrene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benzo(b)fluoranthene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benzo(g,h,i)perylene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Benzo(k)fluoranthene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Bis(2-chloroethoxy)methane	20.0	<RL	µg/L	7/25/2008 6:27:00 PM
Bis(2-chloroethyl)ether	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Bis(2-chloroisopropyl)ether	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Bis(2-ethylhexyl)phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Butyl benzyl phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Chrysene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Dibenz(a,h)anthracene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Diethyl phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Dimethyl phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Di-n-butyl phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMI-VOLATILE ORGANICS

		E625	(SW3510)	Analyst: KM
Di-n-octyl phthalate	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Fluoranthene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Fluorene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Hexachlorobenzene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Hexachlorobutadiene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Hexachlorocyclopentadiene	10.0	<RL D	µg/L	7/25/2008 6:27:00 PM
Hexachloroethane	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Indeno(1,2,3-cd)pyrene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Isophorone	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Naphthalene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Nitrobenzene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
N-Nitrosodimethylamine	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
N-Nitrosodi-n-propylamine	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
N-Nitrosodiphenylamine	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Pentachlorophenol	20.0	<RL	µg/L	7/25/2008 6:27:00 PM
Phenanthrene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Phenol	10.0	<RL	µg/L	7/25/2008 6:27:00 PM
Pyrene	10.0	<RL	µg/L	7/25/2008 6:27:00 PM

VOLATILE ORGANIC COMPOUNDS BY GC/MS

		E624		Analyst: GV
1,1,1-Trichloroethane	2.0	<RL	µg/L	7/19/2008
1,1,2,2-Tetrachloroethane	2.0	<RL	µg/L	7/19/2008
1,1,2-Trichloroethane	2.0	<RL	µg/L	7/19/2008
1,1-Dichloroethane	2.0	<RL	µg/L	7/19/2008
1,1-Dichloroethene	2.0	<RL	µg/L	7/19/2008
1,2-Dichloroethane	2.0	<RL	µg/L	7/19/2008
1,2-Dichloropropene	2.0	<RL	µg/L	7/19/2008
2-Chloroethyl vinyl ether	5.0	<RL	µg/L	7/19/2008
Acrolein	0.5	<RL	µg/L	7/19/2008
Acrylonitrile	1.0	<RL	µg/L	7/19/2008
Benzene	2.0	<RL	µg/L	7/19/2008
Bromoform	2.0	<RL	µg/L	7/19/2008
Carbon tetrachloride	2.0	<RL	µg/L	7/19/2008
Chlorobenzene	2.0	<RL	µg/L	7/19/2008
Chlorodibromomethane	2.0	<RL	µg/L	7/19/2008
Chloroethane	2.0	<RL	µg/L	7/19/2008

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

VOLATILE ORGANIC COMPOUNDS BY GC/MS

		E624		Analyst: GV
Chloroform	2.0	3.2	µg/L	7/19/2008
cis-1,3-Dichloropropene	2.0	<RL	µg/L	7/19/2008
Dichlorobromomethane	2.0	<RL	µg/L	7/19/2008
Ethylbenzene	2.0	<RL	µg/L	7/19/2008
Methyl Bromide	2.0	<RL	µg/L	7/19/2008
Methyl Chloride	2.0	<RL	µg/L	7/19/2008
Methylene chloride	5.0	<RL	µg/L	7/19/2008
Tetrachloroethene	2.0	<RL	µg/L	7/19/2008
Toluene	2.0	<RL	µg/L	7/19/2008
trans-1,2-Dichloroethene	2.0	<RL	µg/L	7/19/2008
trans-1,3-Dichloropropene	2.0	<RL	µg/L	7/19/2008
Trichloroethene	2.0	<RL	µg/L	7/19/2008
Vinyl chloride	2.0	<RL	µg/L	7/19/2008

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

Lab ID: 0807094-002 Collection Date: 7/16/2008 7:00:00 AM
 Client Sample ID: Tert. Effluent Matrix: AQUEOUS

Analyses	RL	Result	Qual	Units	Date Analyzed
ORGANOCHLORINE PESTICIDES					
4,4'-DDD	0.05	<RL		µg/L	7/21/2008
4,4'-DDE	0.05	<RL		µg/L	7/21/2008
4,4'-DDT	0.05	<RL		µg/L	7/21/2008
Aldrin	0.05	<RL		µg/L	7/21/2008
alpha-BHC	0.05	<RL		µg/L	7/21/2008
beta-BHC	0.05	<RL		µg/L	7/21/2008
Chlordane	0.05	<RL		µg/L	7/21/2008
delta-BHC	0.05	<RL		µg/L	7/21/2008
Dieldrin	0.05	<RL		µg/L	7/21/2008
Endosulfan I	0.05	<RL		µg/L	7/21/2008
Endosulfan II	0.05	<RL		µg/L	7/21/2008
Endosulfan sulfate	0.05	<RL		µg/L	7/21/2008
Endrin	0.05	<RL		µg/L	7/21/2008
Endrin aldehyde	0.05	<RL		µg/L	7/21/2008
gamma-BHC	0.05	<RL		µg/L	7/21/2008
Heptachlor	0.05	<RL		µg/L	7/21/2008
Heptachlor epoxide	0.05	<RL		µg/L	7/21/2008
Toxaphene	0.50	<RL		µg/L	7/21/2008
POLYCHLORINATED BIPHENYLS					
Aroclor 1016	1.0	<RL		µg/L	7/21/2008
Aroclor 1221	1.0	<RL		µg/L	7/21/2008
Aroclor 1232	1.0	<RL		µg/L	7/21/2008
Aroclor 1242	1.0	<RL		µg/L	7/21/2008
Aroclor 1248	1.0	<RL		µg/L	7/21/2008
Aroclor 1254	1.0	<RL		µg/L	7/21/2008
Aroclor 1260	1.0	<RL		µg/L	7/21/2008
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS					
1,2,4-Trichlorobenzene	10.0	<RL		µg/L	7/25/2008 7:09:00 PM
1,2-Dichlorobenzene	10.0	<RL		µg/L	7/25/2008 7:09:00 PM
1,2-Diphenylhydrazine	10.0	<RL		µg/L	7/25/2008 7:09:00 PM
1,3-Dichlorobenzene	10.0	<RL		µg/L	7/25/2008 7:09:00 PM

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS		E625	(SW3510)	Analyst: KM
1,4-Dichlorobenzene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,4,6-Trichlorophenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,4-Dichlorophenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,4-Dimethylphenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,4-Dinitrophenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,4-Dinitrotoluene	50.0	<RL	µg/L	7/25/2008 7:09:00 PM
2,6-Dinitrotoluene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2-Chloronaphthalene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2-Chlorophenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
2-Nitrophenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
3,3'-Dichlorobenzidine	20.0	<RL	µg/L	7/25/2008 7:09:00 PM
4,6-Dinitro-2-methylphenol	50.0	<RL	M µg/L	7/25/2008 7:09:00 PM
4-Bromophenyl phenyl ether	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
4-Chloro-3-methylphenol	10.0	<RL	M µg/L	7/25/2008 7:09:00 PM
4-Chlorophenyl phenyl ether	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
4-Nitrophenol	50.0	<RL	M µg/L	7/25/2008 7:09:00 PM
Acenaphthene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Acenaphthylene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Anthracene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Benz(a)anthracene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Benzo(a)pyrene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Benzo(b)fluoranthene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Benzo(g,h,i)perylene	10.0	<RL	M µg/L	7/25/2008 7:09:00 PM
Benzo(k)fluoranthene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Bis(2-chloroethoxy)methane	20.0	<RL	µg/L	7/25/2008 7:09:00 PM
Bis(2-chloroethyl)ether	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Bis(2-chloroisopropyl)ether	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Bis(2-ethylhexyl)phthalate	100	266	µg/L	8/1/2008 4:54:00 AM
Butyl benzyl phthalate	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Chrysene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Dibenz(a,h)anthracene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Diethyl phthalate	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Dimethyl phthalate	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Di-n-butyl phthalate	10.0	<RL	µg/L	7/25/2008 7:09:00 PM

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist

Lab Order: 0807094

Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMI-VOLATILE ORGANICS

E625

(SW3510)

Analyst: KM

Di-n-octyl phthalate	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Fluoranthene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Fluorene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Hexachlorobenzene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Hexachlorobutadiene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Hexachlorocyclopentadiene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Hexachloroethane	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Indeno(1,2,3-cd)pyrene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Isophorone	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Naphthalene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Nitrobenzene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
N-Nitrosodimethylamine	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
N-Nitrosodi-n-propylamine	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
N-Nitrosodiphenylamine	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Perchlorophenol	20.0	<RL	µg/L	7/25/2008 7:09:00 PM
Phenanthrene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Phenol	10.0	<RL	µg/L	7/25/2008 7:09:00 PM
Pyrene	10.0	<RL	µg/L	7/25/2008 7:09:00 PM

VOLATILE ORGANIC COMPOUNDS BY GC/MS

E624

Analyst: GV

1,1,1-Trichloroethane	2.0	<RL	µg/L	7/19/2008
1,1,2,2-Tetrachloroethane	2.0	<RL	µg/L	7/19/2008
1,1,2-Trichloroethane	2.0	<RL	µg/L	7/19/2008
1,1-Dichloroethane	2.0	<RL	µg/L	7/19/2008
1,1-Dichloroethene	2.0	<RL	µg/L	7/19/2008
1,2-Dichloroethane	2.0	<RL	µg/L	7/19/2008
1,2-Dichloropropane	2.0	<RL	µg/L	7/19/2008
2-Chloroethyl vinyl ether	5.0	<RL	µg/L	7/19/2008
Acrolein	0.5	<RL	µg/L	7/19/2008
Acrylonitrile	1.0	<RL	µg/L	7/19/2008
Benzene	2.0	<RL	µg/L	7/19/2008
Bromoform	2.0	<RL	µg/L	7/19/2008
Carbon tetrachloride	2.0	<RL	µg/L	7/19/2008
Chlorobenzene	2.0	<RL	µg/L	7/19/2008
Chlorodibromomethane	2.0	<RL	µg/L	7/19/2008
Chloroethane	2.0	<RL	µg/L	7/19/2008

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist

Lab Order: 0807094

Project: SMSD Sugar Creek Annual

VOLATILE ORGANIC COMPOUNDS BY GC/MS

E624

Analyst: GV

Chloroform	2.0	<RL	µg/L	7/19/2008
cis-1,3-Dichloropropene	2.0	<RL	µg/L	7/19/2008
Dichlorobromomethane	2.0	<RL	µg/L	7/19/2008
Ethylbenzene	2.0	<RL	µg/L	7/19/2008
Methyl Bromide	2.0	<RL	µg/L	7/19/2008
Methyl Chloride	2.0	<RL	µg/L	7/19/2008
Methylene chloride	5.0	<RL	µg/L	7/19/2008
Tetrachloroethene	2.0	<RL	µg/L	7/19/2008
Toluene	2.0	<RL	µg/L	7/19/2008
trans-1,2-Dichloroethene	2.0	<RL	µg/L	7/19/2008
trans-1,3-Dichloropropene	2.0	<RL	µg/L	7/19/2008
Trichloroethene	2.0	<RL	µg/L	7/19/2008
Vinyl chloride	2.0	<RL	µg/L	7/19/2008

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

Lab ID: 0807094-003 Collection Date: 7/16/2008 7:00:00 AM
 Client Sample ID: Anaerobic Sludge Matrix: SLUDGE

Analyses	RL	Result	Qual	Units	Date Analyzed
ORGANOCHLORINE PESTICIDES					
		SW8081A			Analyst: SUB
4,4'-DDD	7.24	<RL	M	µg/Kg-dry	7/23/2008
4,4'-DDE	7.24	<RL	M	µg/Kg-dry	7/23/2008
4,4'-DDT	7.24	<RL	M	µg/Kg-dry	7/23/2008
Aldrin	7.24	<RL		µg/Kg-dry	7/23/2008
alpha-BHC	7.24	<RL		µg/Kg-dry	7/23/2008
beta-BHC	7.24	<RL		µg/Kg-dry	7/23/2008
Chlordane	14.5	<RL	M	µg/Kg-dry	7/23/2008
delta-BHC	7.24	<RL		µg/Kg-dry	7/23/2008
Dieldrin	7.24	<RL	M	µg/Kg-dry	7/23/2008
Endosulfan I	7.24	<RL	M	µg/Kg-dry	7/23/2008
Endosulfan II	7.24	<RL	M	µg/Kg-dry	7/23/2008
Endosulfan sulfate	7.24	<RL	M	µg/Kg-dry	7/23/2008
Endrin	7.24	<RL	M	µg/Kg-dry	7/23/2008
Endrin aldehyde	7.24	<RL	M	µg/Kg-dry	7/23/2008
gamma-BHC	7.24	<RL		µg/Kg-dry	7/23/2008
Heptachlor	7.24	<RL		µg/Kg-dry	7/23/2008
Heptachlor epoxide	7.24	<RL		µg/Kg-dry	7/23/2008
Toxaphene	130	<RL	M	µg/Kg-dry	7/23/2008
POLYCHLORINATED BIPHENYLS					
		SW8082			Analyst: SUB
Aroclor 1016	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1221	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1232	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1242	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1248	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1254	163	<RL		µg/Kg-dry	7/23/2008
Aroclor 1260	163	<RL		µg/Kg-dry	7/23/2008
HERBICIDES, TCLP					
		SW1311/8151A			Analyst: SUB
2,4,5-TP (Silvex)	0.100	<RL	M	mg/L	7/22/2008
2,4-D	0.100	<RL	M	mg/L	7/22/2008
PESTICIDES, TCLP					
		SW1311/8081A			Analyst: SUB
Chlordane	0.0025	<RL		mg/L	7/23/2008

TMI Analytical Services, LLC

Laboratory Results Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

PESTICIDES, TCLP					
		SW1311/8081A			Analyst: SUB
Endrin	0.0002	<RL		mg/L	7/23/2008
gamma-BHC	0.0002	<RL		mg/L	7/23/2008
Heptachlor	0.0002	<RL		mg/L	7/23/2008
Heptachlor epoxide	0.0002	<RL		mg/L	7/23/2008
Methoxychlor	0.0002	<RL		mg/L	7/23/2008
Toxaphene	0.0025	<RL		mg/L	7/23/2008
TCLP METALS BY ICP					
		SW1311/8010B	(SW3010A)		Analyst: ET
Arsenic	3.75	<RL		mg/L	7/23/2008 5:38:02 PM
Barium	75.0	<RL		mg/L	7/23/2008 5:38:02 PM
Cadmium	0.750	<RL		mg/L	7/23/2008 5:38:02 PM
Chromium	3.75	<RL		mg/L	7/23/2008 5:38:02 PM
Lead	3.75	<RL		mg/L	7/23/2008 5:38:02 PM
Selenium	0.750	<RL		mg/L	7/23/2008 5:38:02 PM
TCLP MERCURY BY VGA					
		SW1311/7470A			Analyst: SUB
Mercury	0.0002	<RL		mg/L	7/21/2008
TCLP SILVER BY FLAA					
		SW1311/7760A	(SW3010A)		Analyst: ET
Silver	3.75	<RL		mg/L	7/24/2008
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS					
		E825	(SW3510)		Analyst: KM
1,2,4-Trichlorobenzene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
1,2-Dichlorobenzene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
1,2-Diphenylhydrazine	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
1,3-Dichlorobenzene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
1,4-Dichlorobenzene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,4,6-Trichlorophenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,4-Dichlorophenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,4-Dimethylphenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,4-Dinitrophenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,4-Dinitrotoluene	3130	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2,6-Dinitrotoluene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2-Chloronaphthalene	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2-Chlorophenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
2-Nitrophenol	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM
3,3'-Dichlorobenzidine	1250	<RL		µg/L-dry	7/25/2008 9:16:00 PM
4,6-Dinitro-2-methylphenol	3130	<RL		µg/L-dry	7/25/2008 9:16:00 PM
4-Bromophenyl phenyl ether	625	<RL		µg/L-dry	7/25/2008 9:16:00 PM

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMI-VOLATILE ORGANICS

	E625	(SW3510)	Analyst: KM
4-Chloro-3-methylphenol	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
4-Chlorophenyl phenyl ether	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
4-Nitrophenol	3130	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Acenaphthene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Acenaphthylene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Anthracene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benz(a)anthracene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benzidine	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benzo(a)pyrene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benzo(b)fluoranthene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benzo(g,h,i)perylene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Benzo(k)fluoranthene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Bis(2-chloroethoxy)methane	1250	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Bis(2-chloroethyl)ether	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Bis(2-chloroisopropyl)ether	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Bis(2-ethylhexyl)phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Butyl benzyl phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Chrysene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Dibenz(a,h)anthracene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Diethyl phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Dimethyl phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Di-n-butyl phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Di-n-octyl phthalate	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Fluoranthene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Fluorene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Hexachlorobenzene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Hexachlorobutadiene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Hexachlorocyclopentadiene	625	<RL D	µg/L-dry 7/25/2008 9:16:00 PM
Hexachloroethane	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Indeno(1,2,3-cd)pyrene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Isophorone	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Naphthalene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Nitrobenzene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
N-Nitrosodimethylamine	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
N-Nitrosodi-n-propylamine	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist. Lab Order: 0807094
 Project: SMSD Sugar Creek Annual

PRIORITY POLLUTANT-SEMI-VOLATILE ORGANICS

	E625	(SW3510)	Analyst: KM
N-Nitrosodiphenylamine	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Pentachlorophenol	1250	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Phenanthrene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Phenol	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM
Pyrene	625	<RL	µg/L-dry 7/25/2008 9:16:00 PM

SEMI-VOLATILES ORGANICS, TCLP

	SW1311/8270C	(SW3550A)	Analyst: KM
1,4-Dichlorobenzene	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
2,4,5-Trichlorophenol	0.200	<RL	mg/L 7/26/2008 4:15:00 PM
2,4,6-Trichlorophenol	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
2,4-Dinitrotoluene	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
Hexachlorobenzene	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
Hexachlorobutadiene	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
Hexachloroethane	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
Nitrobenzene	0.100	<RL	mg/L 7/26/2008 4:15:00 PM
Pentachlorophenol	0.100	<RL M	mg/L 7/26/2008 4:15:00 PM
Pyridine	0.200	<RL	mg/L 7/26/2008 4:15:00 PM
Cresols, Total	0.200	<RL	mg/L 7/26/2008 4:15:00 PM

VOLATILE ORGANIC COMPOUNDS BY GC/MS

	E624	(SW5035/8260B)	Analyst: GV
1,1,1-Trichloroethane	123	<RL	µg/Kg-dry 7/29/2008
1,1,2,2-Tetrachloroethane	123	<RL	µg/Kg-dry 7/29/2008
1,1,2-Trichloroethane	123	<RL	µg/Kg-dry 7/29/2008
1,1-Dichloroethane	123	<RL	µg/Kg-dry 7/29/2008
1,1-Dichloroethene	123	<RL	µg/Kg-dry 7/29/2008
1,2-Dichloroethane	123	<RL	µg/Kg-dry 7/29/2008
1,2-Dichloropropane	123	<RL	µg/Kg-dry 7/29/2008
2-Chloroethyl vinyl ether	308	<RL	µg/Kg-dry 7/29/2008
Acrolein	30.8	<RL	µg/Kg-dry 7/29/2008
Acrylonitrile	61.6	<RL	µg/Kg-dry 7/29/2008
Benzene	123	<RL	µg/Kg-dry 7/29/2008
Bromoform	123	<RL	µg/Kg-dry 7/29/2008
Carbon tetrachloride	123	<RL	µg/Kg-dry 7/29/2008
Chlorobenzene	123	<RL	µg/Kg-dry 7/29/2008
Chlorodibromomethane	123	<RL	µg/Kg-dry 7/29/2008
Chloroethane	123	<RL	µg/Kg-dry 7/29/2008
Chloroform	123	<RL	µg/Kg-dry 7/29/2008

TMI Analytical Services, LLC

Laboratory Results

Date: 04-Aug-08

CLIENT: Springfield Metro Sanitary Dist.

Lab Order: 0807094

Project: SMSD Sugar Creek Annual

VOLATILE ORGANIC COMPOUNDS BY GC/MS

E624

(SW5035/8260B)

Analyst: GV

cis-1,3-Dichloropropene	123	<RL	µg/Kg-dry	7/20/2008
Dichlorobromomethane	123	<RL	µg/Kg-dry	7/20/2008
Ethylbenzene	123	<RL	µg/Kg-dry	7/20/2008
Methyl Bromide	123	<RL	µg/Kg-dry	7/20/2008
Methyl Chloride	123	<RL	µg/Kg-dry	7/20/2008
Methylene chloride	308	<RL	µg/Kg-dry	7/20/2008
Tetrachloroethene	123	<RL	µg/Kg-dry	7/20/2008
Toluene	123	<RL	µg/Kg-dry	7/20/2008
trans-1,2-Dichloroethene	123	<RL	µg/Kg-dry	7/20/2008
trans-1,3-Dichloropropene	123	<RL	µg/Kg-dry	7/20/2008
Trichloroethene	123	<RL	µg/Kg-dry	7/20/2008
Vinyl chloride	123	<RL	µg/Kg-dry	7/20/2008

VOLATILES, TCLP

SW1311/8260B

(SW1311)

Analyst: GV

1,1-Dichloroethene	0.002	<RL	mg/L	7/24/2008
1,2-Dichloroethane	0.002	<RL	mg/L	7/24/2008
2-Butanone	0.005	0.013	mg/L	7/24/2008
Benzene	0.002	<RL	mg/L	7/24/2008
Carbon tetrachloride	0.002	<RL	mg/L	7/24/2008
Chlorobenzene	0.002	<RL	mg/L	7/24/2008
Chloroform	0.002	<RL	mg/L	7/24/2008
Tetrachloroethene	0.002	<RL	mg/L	7/24/2008
Trichloroethene	0.002	<RL	mg/L	7/24/2008
Vinyl chloride	0.002	<RL	mg/L	7/24/2008

PERCENT MOISTURE

D2974/SM2540G

Analyst: JS

Percent Moisture	0.5	98.4	%	7/21/2008
Percent Solids	0.5	1.6	%	7/21/2008

[illegible]

APPROVED BY: _____

Prairie



Analytical
Systems, INCORPORATED

Wednesday, July 22, 2009

Greg Fraase

Springfield Metro Sanitary District
3017 North 8th Street
Springfield, IL 62707

TEL: (217) 528-0491

FAX: (217) 528-0497

RE: Sugar Creek Annual

PAS WO: 09G0307

Prairie Analytical Systems, Inc. received 3 sample(s) on 7/10/2009 for the analyses presented in the following report.

All applicable quality control procedures met method specific acceptance criteria unless otherwise noted.

This report shall not be reproduced, except in full, without the prior written consent of Prairie Analytical Systems, Inc.

If you have any questions, please feel free to contact me at (217) 753-1148.

Respectfully submitted,

Erica D. Treadway
Project Manager

Certifications:

NELAP/NELAC - # 100323.

1210 Capital Airport Drive
9114 Virginia Road Suite #112

Springfield, IL 62707
Lake in the Hills, IL 60156

1.217.753.1148
1.847.651.2604

1.217.753.1152 Fax
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LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/10/09 10:05

Lab Order: 09G0307
 Lab ID: 09G0307-01
 Matrix: Water

Analytes	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	50.0		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Acrylonitrile	U	50.0		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Benzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Bromodichloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Bromoform	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Bromomethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Carbon tetrachloride	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Chlorobenzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Chloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
2-Chloroethyl vinyl ether	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Chloroform	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Chloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Dibromochloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,1-Dichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,2-Dichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,1-Dichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
trans-1,2-Dichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,2-Dichloropropane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
cis-1,3-Dichloropropene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
trans-1,3-Dichloropropene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Ethylbenzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Methylene chloride	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,1,2,2-Tetrachloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Tetrachloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Toluene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,1,1-Trichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
1,1,2-Trichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Trichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 0:42	EPA 624	JKA
Vinyl chloride	U	5.00		µg/L	1	7/20/09 12:52	7/20/09 13:37	EPA 624	JKA

Semi-Volatile Organic Compounds by GC-MS

Acenaphthene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Acenaphthylene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benidine	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benzo(a)anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benzo(b)fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benzo(k)fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benzo(g,h,i)perylene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Benzo(a)pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Bis(2-chloroethoxy)methane	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Bis(2-chloroethyl)ether	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Bis(2-chloroisopropyl)ether	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Bis(2-ethylhexyl)phthalate	63.4	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
4-Bromophenyl phenyl ether	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Butyl benzyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
4-Chloro-3-methylphenol	U	22.5		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2-Chloronaphthalene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2-Chlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/10/09 10:05

Lab Order: 09G0307
 Lab ID: 09G0307-01
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
4-Chlorophenyl phenyl ether	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Chrysene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Di-n-butyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Di-n-octyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Dibenz(a,h)anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
1,2-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
1,3-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
1,4-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
3,3'-Dichlorobenzidine	U	22.5		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,4-Dichlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Diethyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Dimethyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,4-Dimethylphenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
4,6-Dinitro-2-methylphenol	U	56.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,4-Dinitrophenol	U	56.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,4-Dinitrotoluene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,6-Dinitrotoluene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
1,2-Diphenylhydrazine	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Fluorene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Hexachlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Hexachlorobutadiene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Hexachlorocyclopentadiene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Hexachloroethane	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Indeno(1,2,3-cd)pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Isophorone	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Naphthalene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Nitrobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
N-Nitroso-di-n-propylamine	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
N-Nitrosodimethylamine	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
N-Nitrosodiphenylamine	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2-Nitrophenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
4-Nitrophenol	U	56.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Pentachlorophenol	U	56.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Phenanthrene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Phenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
Pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
1,2,4-Trichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM
2,4,6-Trichlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/16/09 21:56	EPA 625	CJM

Organochlorine Pesticides by GC-ECD

*Aldrin	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*alpha-BHC	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*beta-BHC	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*delta-BHC	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*gamma-BHC	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Chlordane (total)	U	2.17		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDD	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDE	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDT	U	0.217		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/10/09 10:05

Lab Order: 09G0307
 Lab ID: 09G0307-01
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
*Dieldrin	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan I	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan II	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan sulfate	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin aldehyde	U	0.163		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor	U	0.109		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor epoxide	U	0.0543		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Methoxychlor	U	0.109		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Toxaphene	U	3.26		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1221	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1232	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1242	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1248	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1254	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1260	U	0.543		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Effluent
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-02
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	50.0		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Acrylonitrile	U	50.0		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Benzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Bromodichloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Bromoform	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Bromomethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Carbon tetrachloride	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Chlorobenzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Chloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
2-Chloroethyl vinyl ether	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Chloroform	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Chloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Dibromochloromethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,1-Dichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,2-Dichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,1-Dichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
trans-1,2-Dichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,2-Dichloropropane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
cis-1,3-Dichloropropene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
trans-1,3-Dichloropropene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Ethylbenzene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Methylene chloride	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,1,2,2-Tetrachloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Tetrachloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Toluene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,1,1-Trichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
1,1,2-Trichloroethane	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Trichloroethene	U	5.00		µg/L	1	7/16/09 18:58	7/17/09 1:12	EPA 624	JKA
Vinyl chloride	U	5.00		µg/L	1	7/20/09 12:52	7/20/09 14:07	EPA 624	JKA

Semi-Volatile Organic Compounds by GC-MS

Acenaphthene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Acenaphthylene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzidine	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzo(a)anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzo(b)fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzo(k)fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzo(g,h,i)perylene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Benzo(a)pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Bis(2-chloroethoxy)methane	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Bis(2-chloroethyl)ether	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Bis(2-chloroisopropyl)ether	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Bis(2-ethylhexyl)phthalate	209	56.2		µg/L	5	7/14/09 14:39	7/20/09 11:10	EPA 625	CJM
4-Bromophenyl phenyl ether	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Butyl benzyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
4-Chloro-3-methylphenol	U	22.5		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2-Chloronaphthalene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2-Chlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM

LABORATORY RESULTS

Client: Springfield Metro Sanitary District

Project: Sugar Creek Annual

Lab Order: 09G0307

Client Sample ID: Effluent

Lab ID: 09G0307-02

Collection Date: 7/10/09 10:20

Matrix: Water

Analytes	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
4-Chlorophenyl phenyl ether	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Chrysene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Di-n-butyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Di-n-octyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Dibenz(a,h)anthracene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
1,2-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
1,3-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
1,4-Dichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
3,3'-Dichlorobenzidine	U	22.5		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,4-Dichlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Diethyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Dimethyl phthalate	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,4-Dimethylphenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
4,6-Dinitro-2-methylphenol	U	56.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,4-Dinitrophenol	U	56.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,4-Dinitrotoluene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,6-Dinitrotoluene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
1,2-Diphenylhydrazine	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Fluoranthene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Fluorene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Hexachlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Hexachlorobutadiene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Hexachlorocyclopentadiene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Hexachloroethane	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Indeno(1,2,3-cd)pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Isophorone	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Naphthalene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Nitrobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
N-Nitroso-di-n-propylamine	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
N-Nitrosodimethylamine	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
N-Nitrosodiphenylamine	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2-Nitrophenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
4-Nitrophenol	U	56.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Pentachlorophenol	U	56.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Phenanthrene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Phenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
Pyrene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
1,2,4-Trichlorobenzene	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM
2,4,6-Trichlorophenol	U	11.2		µg/L	1	7/14/09 14:39	7/17/09 14:34	EPA 625	CJM

Organochlorine Pesticides by GC-ECD

*Aldrin	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*alpha-BHC	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*beta-BHC	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*delta-BHC	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*gamma-BHC	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Chlordane (total)	U	2.22		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDD	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDE	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDT	U	0.222		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Effluent
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-02
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
*Dieldrin	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan I	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan II	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan sulfate	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin aldehyde	U	0.167		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor	U	0.111		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor epoxide	U	0.0556		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Methoxychlor	U	0.111		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Toxaphene	U	3.33		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1221	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1232	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1242	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1248	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1254	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1260	U	0.556		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-03
 Matrix: Sludge

Analytes	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	2500		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Acrylonitrile	U	2500		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Benzene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Bromodichloromethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Bromoform	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Bromomethane	U	490		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Carbon tetrachloride	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Chlorobenzene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Chloroethane	U	500		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
2-Chloroethyl vinyl ether	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Chloroform	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Chloromethane	U	500		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Dibromochloromethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,1-Dichloroethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,2-Dichloroethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,1-Dichloroethene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
trans-1,2-Dichloroethene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,2-Dichloropropane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
cis-1,3-Dichloropropene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
trans-1,3-Dichloropropene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Ethylbenzene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Methylene chloride	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,1,2,2-Tetrachloroethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Tetrachloroethene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Toluene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,1,1-Trichloroethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
1,1,2-Trichloroethane	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Trichloroethene	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP
Vinyl chloride	U	250		µg/L	50	7/21/09 10:55	7/22/09 13:23	SW 8260B	BDP

TCLP Volatile Organic Compounds by GC-MS

*Benzene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*2-Butanone	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Carbon tetrachloride	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Chlorobenzene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Chloroform	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*1,4-Dichlorobenzene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*1,2-Dichloroethane	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*1,1-Dichloroethene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Tetrachloroethene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Trichloroethene	U	125		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP
*Vinyl chloride	U	100		µg/L	5	7/14/09 13:08	7/15/09 5:20	SW 8260B	BDP

Semi-Volatile Organic Compounds by GC-MS

Acenaphthene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Acenaphthylene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Anthracene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Benzidine	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-03
 Matrix: Sludge

Analytes	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Benzo(a)anthracene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Benzo(b)fluoranthene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Benzo(k)fluoranthene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Benzo(g,h,i)perylene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Benzo(a)pyrene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Bis(2-chloroethoxy)methane	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Bis(2-chloroethyl)ether	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Bis(2-chloroisopropyl)ether	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Bis(2-ethylhexyl)phthalate	U	6.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
4-Bromophenyl phenyl ether	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Butyl benzyl phthalate	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
4-Chloro-3-methylphenol	U	20.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2-Chloronaphthalene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2-Chlorophenol	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
4-Chlorophenyl phenyl ether	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Chrysene	U	1.35		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Di-n-butyl phthalate	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Di-n-octyl phthalate	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Dibenz(a,h)anthracene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
1,2-Dichlorobenzene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
1,3-Dichlorobenzene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
1,4-Dichlorobenzene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
3,3'-Dichlorobenzidine	U	20.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,4-Dichlorophenol	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Diethyl phthalate	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Dimethyl phthalate	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,4-Dimethylphenol	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
4,6-Dinitro-2-methylphenol	U	50.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,4-Dinitrophenol	U	14.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,4-Dinitrotoluene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,6-Dinitrotoluene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
1,2-Diphenylhydrazine	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Fluoranthene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Fluorene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Hexachlorobenzene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Hexachlorobutadiene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Hexachlorocyclopentadiene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Hexachloroethane	U	7.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Indeno(1,2,3-cd)pyrene	U	1.00		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Isophorone	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Naphthalene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Nitrobenzene	U	3.50		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2-Nitrophenol	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
4-Nitrophenol	U	50.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
N-Nitroso-di-n-propylamine	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
N-Nitrosodimethylamine	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
N-Nitrosodiphenylamine	U	3.20		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Pentachlorophenol	U	0.0900		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Phenanthrene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
Phenol	37.6	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Pyrene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
1,2,4-Trichlorobenzene	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM
2,4,6-Trichlorophenol	U	10.0		µg/L	1	7/14/09 14:39	7/17/09 15:09	SW 8270C	CJM

TCLP Semi-Volatile Organic Compounds by GC-MS

*1,4-Dichlorobenzene	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*2,4-Dinitrotoluene	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*Hexachlorobenzene	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*Hexachlorobutadiene	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*Hexachloroethane	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*2-Methylphenol	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
3 & 4-Methylphenol	196	20.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*Nitrobenzene	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*Pentachlorophenol	U	50.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
Pyridine	U	50.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*2,4,5-Trichlorophenol	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM
*2,4,6-Trichlorophenol	U	10.0		µg/L	1	7/13/09 15:40	7/15/09 10:28	SW 8270C	CJM

Organochlorine Pesticides by GC-ECD

*Aldrin	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*alpha-BHC	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*beta-BHC	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*delta-BHC	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*gamma-BHC	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Chlordane (total)	U	10.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDD	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDE	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDT	U	1.00		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Dieldrin	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan I	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan II	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan sulfate	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin aldehyde	U	0.750		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor	U	0.500		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor epoxide	U	0.250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Methoxychlor	U	0.500		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Toxaphene	U	15.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

TCLP Organochlorine Pesticides by GC-ECD

*Aldrin	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*alpha-BHC	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*beta-BHC	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*delta-BHC	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*gamma-BHC	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*alpha-Chlordane	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*gamma-Chlordane	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDD	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*4,4'-DDE	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/10/09 10:20

Lab Order: 09G0307
 Lab ID: 09G0307-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DP	Date Prepared	Date Analyzed	Method	Analyst
*4,4'-DDT	U	100		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Dieldrin	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan I	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan II	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endosulfan sulfate	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin aldehyde	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Endrin ketone	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor	U	40.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Heptachlor epoxide	U	40.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Methoxychlor	U	50.0		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP
*Toxaphene	U	250		µg/L	1	7/14/09 15:40	7/15/09 20:58	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1221	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1232	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1242	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1248	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1254	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP
*Aroclor 1260	U	2.50		µg/L	1	7/14/09 16:01	7/16/09 16:03	SW 8082	BDP

TCLP Herbicides by HPLC-MS

*2,4-D	U	50.0		µg/L	1	7/15/09 14:11	7/16/09 2:12	SW 8321A	JA
*2,4,5-TP	U	50.0		µg/L	1	7/15/09 14:11	7/16/09 2:12	SW 8321A	JA

TCLP Metals by ICP-MS

*Arsenic	0.00696	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Barium	0.268	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Cadmium	U	0.00100		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Chromium	0.00605	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Lead	0.0278	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Mercury	0.000271	0.000200		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Selenium	0.0161	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC
*Silver	U	0.00500		mg/L	1	7/13/09 7:30	7/15/09 16:39	SW 6020A	JTC

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
Project: Sugar Creek Annual

Lab Order: 09G0307

Notes and Definitions

- S Spike recovery outside acceptance limits.
- R RPD outside acceptance limits.
- * NELAC certified compound.
- U Analyte not detected (i.e. less than RL or MDL).

Central IL- 1210 Capital Airport Drive - Springfield, IL 62707-8490 - Phone (217) 753-1148 - Facsimile (217) 753-1152
Chicago Office - PO Box 2116 - Crystal Lake, IL 60039-2116 - Phone (847) 651-2804 - Facsimile (847) 458-8880

Prairie  **Analytical**
Systems, INCORPORATED

Page _____ of _____

Copies: White - Client Yellow - PAS, Inc. Pink - Sample.



Wednesday, September 1, 2010

Greg Fraase

Springfield Metro Sanitary District

3017 North 8th Street

Springfield, IL 62707

TEL: (217) 528-0491

FAX: (217) 528-0497

RE: Sugar Creek Annual

PAS WO: 10G0346

Prairie Analytical Systems, Inc. received 3 sample(s) on 7/28/2010 for the analyses presented in the following report.

All applicable quality control procedures met method specific acceptance criteria unless otherwise noted.

This report shall not be reproduced, except in full, without the prior written consent of Prairie Analytical Systems, Inc.

If you have any questions, please feel free to contact me at (217) 753-1148.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kristen Potter".

Kristen A. Potter

Project Manager

Certifications:

NELAP/NELAC - IL #100323

1210 Capital Airport Drive	*	Springfield, IL 62707	*	1.217.753.1148	*	1.217.753.1152 Fax
9114 Virginia Road Suite #112	*	Lake in the Hills, IL 60156	*	1.847.651.2604	*	1.847.458.0538 Fax

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-01
 Matrix: Water

Analytes	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	50.0		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Acrylonitrile	U	50.0		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Benzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Bromodichloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Bromoform	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Bromomethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Carbon tetrachloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Chlorobenzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Chloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
2-Chloroethyl vinyl ether	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Chloroform	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Chloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Dibromochloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,1-Dichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,2-Dichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,1-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
cis-1,2-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
trans-1,2-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,2-Dichloropropane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,3-Dichloropropene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
trans-1,3-Dichloropropene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Ethylbenzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Methylene chloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,1,2,2-Tetrachloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Tetrachloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Toluene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,1,1-Trichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
1,1,2-Trichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Trichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Vinyl chloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:23	EPA 624	JKA
Semi-Volatile Organic Compounds by GC-MS									
Acenaphthene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Acenaphthylene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Anthracene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzidine	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzo(a)anthracene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzo(b)fluoranthene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzo(k)fluoranthene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzo(g,h,i)perylene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Benzo(a)pyrene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Bis(2-chloroethoxy)methane	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Bis(2-chloroethyl)ether	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Bis(2-chloroisopropyl)ether	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Bis(2-ethylhexyl)phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Di-n-butylphenyl phenyl ether	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Di-n-butyl phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
4-Chloro-3-methylphenol	U	21.7		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2-Chloronaphthalene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA

LABORATORY RESULTS

Int: Springfield Metro Sanitary District
 Subject: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-01
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
2-Chlorophenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
4-Chlorophenyl phenyl ether	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Chrysene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Di-n-butyl phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Di-n-octyl phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Dibenz(a,h)anthracene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
1,2-Dichlorobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
1,3-Dichlorobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
1,4-Dichlorobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
3,3'-Dichlorobenzidine	U	21.7		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,4-Dichlorophenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Diethyl phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Dimethyl phthalate	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,4-Dimethylphenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
4,6-Dinitro-2-methylphenol	U	54.3		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,4-Dinitrophenol	U	54.3		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,4-Dinitrotoluene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,6-Dinitrotoluene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
1,2-Diphenylhydrazine	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Fluoranthene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Pyrene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Trichlorobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Hexachlorobutadiene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Hexachlorocyclopentadiene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Hexachloroethane	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Indeno(1,2,3-cd)pyrene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Isophorone	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Naphthalene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Nitrobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
N-Nitroso-di-n-propylamine	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
N-Nitrosodimethylamine	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
N-Nitrosodiphenylamine	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2-Nitrophenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
4-Nitrophenol	U	54.3		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Pentachlorophenol	U	54.3		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Phenanthrene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Phenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
Pyrene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
1,2,4-Trichlorobenzene	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA
2,4,6-Trichlorophenol	U	10.9		µg/L	1	7/28/10 11:12	7/30/10 3:55	EPA 625	JKA

Organochlorine Pesticides by GC-ECD

*Aldrin	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*alpha-BHC	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*beta-BHC	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*delta-BHC	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*gamma-BHC	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
Endane (total)	U	2.41		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*4,4'-DDD	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*4,4'-DDE	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Influent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-01
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
*4,4'-DDT	U	0.241		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Dieldrin	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Endosulfan I	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Endosulfan II	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Endosulfan sulfate	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Endrin	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Endrin aldehyde	U	0.181		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Heptachlor	U	0.120		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Heptachlor epoxide	U	0.0602		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Methoxychlor	U	0.120		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP
*Toxaphene	U	3.61		µg/L	1	7/30/10 11:08	8/2/10 17:39	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1221	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1232	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1242	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1248	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1254	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP
*Aroclor 1260	U	0.602		µg/L	1	7/30/10 11:11	8/3/10 3:11	SW 8082	BDP

Metals by ICP-MS

*Antimony	0.00700	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Arsenic	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Barium	0.0775	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Beryllium	U	0.00400		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Cadmium	U	0.00100		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Chromium	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Copper	0.0207	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Iron	0.575	0.100		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Lead	0.00998	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Manganese	0.0974	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Mercury	U	0.000200		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Molybdenum	0.00801	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Nickel	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Potassium	4.70	0.300		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Selenium	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Silver	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Thallium	U	0.00200		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC
*Zinc	0.0478	0.0100		mg/L	1	7/29/10 12:00	8/29/10 6:54	EPA 200.8	JTC

Dissolved Metals by ICP-MS

*Iron	0.152	0.100		mg/L	1	7/30/10 15:25	8/29/10 3:52	EPA 200.8	JTC
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LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Effluent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-02
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	50.0		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Acrylonitrile	U	50.0		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Benzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Bromodichloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Bromoform	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Bromomethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Carbon tetrachloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Chlorobenzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Chloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
2-Chloroethyl vinyl ether	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Chloroform	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Chloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Dibromochloromethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,1-Dichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,2-Dichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,1-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
cis-1,2-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
trans-1,2-Dichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,2-Dichloropropane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,3-Dichloropropene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
cis-1,3-Dichloropropene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Ethylbenzene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Methylene chloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,1,2,2-Tetrachloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Tetrachloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Toluene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,1,1-Trichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
1,1,2-Trichloroethane	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Trichloroethene	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA
Vinyl chloride	U	5.00		µg/L	1	8/9/10 16:55	8/9/10 20:55	EPA 624	JKA

Semi-Volatile Organic Compounds by GC-MS

Acenaphthene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Acenaphthylene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Anthracene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benazidine	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benzo(a)anthracene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benzo(b)fluoranthene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benzo(k)fluoranthene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benzo(g,h,i)perylene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Benzo(a)pyrene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Bis(2-chloroethoxy)methane	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Bis(2-chloroethyl)ether	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Bis(2-chloroisopropyl)ether	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Bis(2-ethylhexyl)phthalate	232	50.0		µg/L	5	7/28/10 11:12	8/2/10 17:07	EPA 625	JKA
Bis(4-phenyl phenyl) ether	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
benzyl phthalate	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
4-Chloro-3-methylphenol	U	23.0		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2-Chloronaphthalene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Effluent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-02
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
2-Chlorophenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
4-Chlorophenyl phenyl ether	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Chrysene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Di-n-butyl phthalate	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Di-n-octyl phthalate	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Dibenz(a,h)anthracene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1,2-Dichlorobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1,3-Dichlorobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1,4-Dichlorobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
3,3'-Dichlorobenzidine	U	23.0		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,4-Dichlorophenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Diethyl phthalate	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Dimethyl phthalate	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,4-Dimethylphenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
4,6-Dinitro-2-methylphenol	U	57.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,4-Dinitrophenol	U	57.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,4-Dinitrotoluene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,6-Dinitrotoluene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1,2-Diphenylhydrazine	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Fluoranthene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Indene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1-Chlorobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Hexachlorobutadiene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Hexachlorocyclopentadiene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Hexachloroethane	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Indeno(1,2,3-cd)pyrene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Isophorone	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Naphthalene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Nitrobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
N-Nitroso-di-n-propylamine	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
N-Nitrosodimethylamine	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
N-Nitrosodiphenylamine	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2-Nitrophenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
4-Nitrophenol	U	57.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Pentachlorophenol	U	57.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Phenanthrene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Phenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
Pyrene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
1,2,4-Trichlorobenzene	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA
2,4,6-Trichlorophenol	U	11.5		µg/L	1	7/28/10 11:12	7/30/10 4:27	EPA 625	JKA

Organochlorine Pesticides by GC-ECD

*Aldrin	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*alpha-BHC	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*beta-BHC	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*delta-BHC	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*gamma-BHC	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
Endane (total)	U	2.30		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*4,4'-DDD	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*4,4'-DDE	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Effluent
 Collection Date: 7/28/10 0:00

Lab Order: 10G0346
 Lab ID: 10G0346-02
 Matrix: Water

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
*4,4'-DDT	U	0.230		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Dieldrin	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Endosulfan I	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Endosulfan II	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Endosulfan sulfate	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Endrin	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Endrin aldehyde	U	0.172		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Heptachlor	U	0.115		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Heptachlor epoxide	U	0.0575		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Methoxychlor	U	0.115		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP
*Toxaphene	U	3.45		µg/L	1	7/30/10 11:08	8/2/10 18:13	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1221	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1232	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1242	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1248	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1254	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP
*Aroclor 1260	U	0.575		µg/L	1	7/30/10 11:11	8/3/10 3:45	SW 8082	BDP

Metals by ICP-MS

*Antimony	0.00631	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Arsenic	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Barium	0.0500	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Beryllium	U	0.00400		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Cadmium	U	0.00100		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Chromium	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Copper	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Iron	0.102	0.100		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Lead	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Manganese	0.0158	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Mercury	U	0.000200		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Molybdenum	0.00502	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Nickel	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Potassium	4.22	0.300		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Selenium	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Silver	U	0.00500		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Thallium	U	0.00200		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC
*Zinc	0.0156	0.0100		mg/L	1	7/29/10 12:00	8/29/10 7:03	EPA 200.8	JTC

Dissolved Metals by ICP-MS

*Iron	U	0.100		mg/L	1	7/30/10 15:25	8/29/10 4:01	EPA 200.8	JTC
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LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/28/10 8:00

Lab Order: 10G0346
 Lab ID: 10G0346-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Volatile Organic Compounds by GC-MS									
Acrolein	U	2840		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Acrylonitrile	U	2840		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Benzene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Bromodichloromethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Bromoform	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Bromomethane	U	567		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Carbon tetrachloride	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Chlorobenzene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Chloroethane	U	567		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
2-Chloroethyl vinyl ether	U	567		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Chloroform	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Chloromethane	U	567		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Dibromochloromethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,1-Dichloroethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,2-Dichloroethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,1-Dichloroethene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
trans-1,2-Dichloroethene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,2-Dichloropropane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
cis-1,3-Dichloropropene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
5-1,3-Dichloropropene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Styrene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Methylene chloride	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,1,2,2-Tetrachloroethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Tetrachloroethene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Toluene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,1,1-Trichloroethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
1,1,2-Trichloroethane	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Trichloroethene	U	284		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP
Vinyl chloride	U	425		µg/Kg dry	1	8/10/10 10:29	8/10/10 14:13	SW 8260B	BDP

TCLP Volatile Organic Compounds by GC-MS

*Benzene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*2-Butanone	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Carbon tetrachloride	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Chlorobenzene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Chloroform	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*1,4-Dichlorobenzene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*1,2-Dichloroethane	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*1,1-Dichloroethene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Tetrachloroethene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Trichloroethene	U	125		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP
*Vinyl chloride	U	100		µg/L	5	8/9/10 10:10	8/9/10 11:36	SW 8260B	BDP

Semi-Volatile Organic Compounds by GC-MS

Acenaphthene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Acenaphthylene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Acenaphthene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Benzidine	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
 Project: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/28/10 8:00

Lab Order: 10G0346
 Lab ID: 10G0346-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Benzo(a)anthracene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Benzo(b)fluoranthene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Benzo(k)fluoranthene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Benzo(g,h,i)perylene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Benzo(a)pyrene	U	7220		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Bis(2-chloroethoxy)methane	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Bis(2-chloroethyl)ether	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Bis(2-chloroisopropyl)ether	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Bis(2-ethylhexyl)phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
4-Bromophenyl phenyl ether	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Butyl benzyl phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
4-Chloro-3-methylphenol	U	71300		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2-Chloronaphthalene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2-Chlorophenol	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
4-Chlorophenyl phenyl ether	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Chrysene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Di-n-butyl phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Di-n-octyl phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Dibenz(a,h)anthracene	U	9630		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
1,2-Dichlorobenzene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
1,3-Dichlorobenzene	U	21400		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Dichlorobenzene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
3,3'-Dichlorobenzidine	U	3570		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,4-Dichlorophenol	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Diethyl phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Dimethyl phthalate	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,4-Dimethylphenol	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
4,6-Dinitro-2-methylphenol	U	178000		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,4-Dinitrophenol	U	16100		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,4-Dinitrotoluene	U	20100		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,6-Dinitrotoluene	U	20900		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
1,2-Diphenylhydrazine	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Fluoranthene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Fluorene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Hexachlorobenzene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Hexachlorobutadiene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Hexachlorocyclopentadiene	U	71300		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Hexachloroethane	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Indeno(1,2,3-cd)pyrene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Isophorone	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Naphthalene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Nitrobenzene	U	8030		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2-Nitrophenol	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
4-Nitrophenol	U	178000		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
N-Nitroso-di-n-propylamine	U	3570		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
N-Nitrosodimethylamine	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
N-Nitrosodiphenylamine	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Phlorophenol	U	3570		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Phenanthrene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
Phenol	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA

LABORATORY RESULTS

ent: Springfield Metro Sanitary District
 roject: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/28/10 8:00

Lab Order: 10G0346
 Lab ID: 10G0346-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
Pyrene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
1,2,4-Trichlorobenzene	U	35600		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA
2,4,6-Trichlorophenol	U	16100		µg/Kg dry	1	7/29/10 10:08	7/31/10 0:36	SW 8270C	JKA

TCLP Semi-Volatile Organic Compounds by GC-MS

*1,4-Dichlorobenzene	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*2,4-Dinitrotoluene	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*Hexachlorobenzene	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*Hexachlorobutadiene	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*Hexachloroethane	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*2-Methylphenol	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
3 & 4-Methylphenol	U	20.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*Nitrobenzene	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*Pentachlorophenol	U	50.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
Pyridine	U	50.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*2,4,5-Trichlorophenol	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP
*2,4,6-Trichlorophenol	U	10.0		µg/L	1	8/6/10 13:46	8/6/10 17:51	SW 8270C	BDP

Organochlorine Pesticides by GC-ECD

*Aldrin	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*alpha-BHC	U	77.9		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*beta-BHC	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*delta-BHC	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*gamma-BHC	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Chlordane (total)	U	7790		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*4,4'-DDD	U	468		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*4,4'-DDE	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*4,4'-DDT	U	468		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Dieldrin	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Endosulfan I	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Endosulfan II	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Endosulfan sulfate	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Endrin	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Endrin aldehyde	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Heptachlor	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Heptachlor epoxide	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Methoxychlor	U	234		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP
*Toxaphene	U	156		µg/Kg dry	1	7/30/10 11:12	8/2/10 21:01	SW 8081A	BDP

TCLP Organochlorine Pesticides by GC-ECD

*Aldrin	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*alpha-BHC	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*beta-BHC	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*delta-BHC	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*gamma-BHC	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*alpha-Chlordane	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*gamma-Chlordane	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*4,4'-DDD	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*4,4'-DDE	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP

LABORATORY RESULTS

nt: Springfield Metro Sanitary District
 Subject: Sugar Creek Annual
 Client Sample ID: Sludge
 Collection Date: 7/28/10 8:00

Lab Order: 10G0346
 Lab ID: 10G0346-03
 Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DP	Date Prepared	Date Analyzed	Method	Analyst
*4,4'-DDT	U	100		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Dieldrin	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endosulfan I	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endosulfan II	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endosulfan sulfate	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endrin	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endrin aldehyde	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Endrin ketone	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Heptachlor	U	40.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Heptachlor epoxide	U	40.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Methoxychlor	U	50.0		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP
*Toxaphene	U	250		µg/L	1	8/6/10 10:28	8/9/10 21:58	SW 8081A	BDP

Polychlorinated Biphenyls by GC-ECD

*Aroclor 1016	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1221	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1232	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1242	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1248	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1254	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP
*Aroclor 1260	U	5140		µg/Kg dry	1	7/30/10 11:14	8/3/10 8:25	SW 8082	BDP

TCLP Herbicides by HPLC-MS

*2,4-D	U	50.0		µg/L	1	8/6/10 15:20	8/9/10 2:47	SW 8321A	JA
*2,4,5-TP	U	50.0		µg/L	1	8/6/10 15:20	8/9/10 2:47	SW 8321A	JA

Metals by ICP-MS

*Antimony	20.4	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Arsenic	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Barium	500	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Beryllium	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Cadmium	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Chromium	45.7	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Copper	245	26.4		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Iron	19500	26.4		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Lead	172	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Manganese	1690	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Mercury	U	2.64		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Molybdenum	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Nickel	27.9	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Potassium	3580	2640		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Selenium	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Silver	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Thallium	U	13.2		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC
*Zinc	522	26.4		mg/Kg dry	2	7/30/10 14:15	8/29/10 8:57	SW 6020A	JTC

Metals by ICP-MS

*Cadmium	U	0.0150		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Barium	0.539	0.0150		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC

LABORATORY RESULTS

Client: Springfield Metro Sanitary District
Subject: Sugar Creek Annual
Client Sample ID: Sludge
Collection Date: 7/28/10 8:00

Lab Order: 10G0346
Lab ID: 10G0346-03
Matrix: Sludge

Analyses	Result	Limit	Qual	Units	DF	Date Prepared	Date Analyzed	Method	Analyst
*Cadmium	U	0.00600		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Chromium	0.0312	0.00600		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Lead	0.130	0.0150		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Mercury	U	0.000600		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Selenium	0.0162	0.0150		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC
*Silver	U	0.0150		mg/L	3	8/6/10 11:40	8/24/10 17:57	SW 6020A	JTC

Conventional Chemistry Parameters

Percent Solids	1.86	0.0100	%	1	8/2/10 10:55	8/2/10 15:25	ASTM D2216	RMN
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LABORATORY RESULTS

Client: Springfield Metro Sanitary District
Project: Sugar Creek Annual

Lab Order: 10G0346

Notes and Definitions

- S2 Surrogate recovery exceeds the acceptance criteria due to matrix interference, but there is no observable concentration in associated analyte(s).
- S1 Analyte exceeds the laboratory control sample acceptance criteria, but there is no observable concentration in the sample.
- S Spike recovery outside acceptance limits.
- R RPD outside acceptance limits.
- I Matrix interference.
- F Fail
- E Result above quantitation range.
- CI Analyte result confirmed by second analysis.
- * NELAC certified compound.
- U Analyte not detected (i.e. less than RL or MDL).
-

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Prairie Analytical
Systems, Incorporated

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